



This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

- + *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.
- + *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.
- + *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.
- + *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

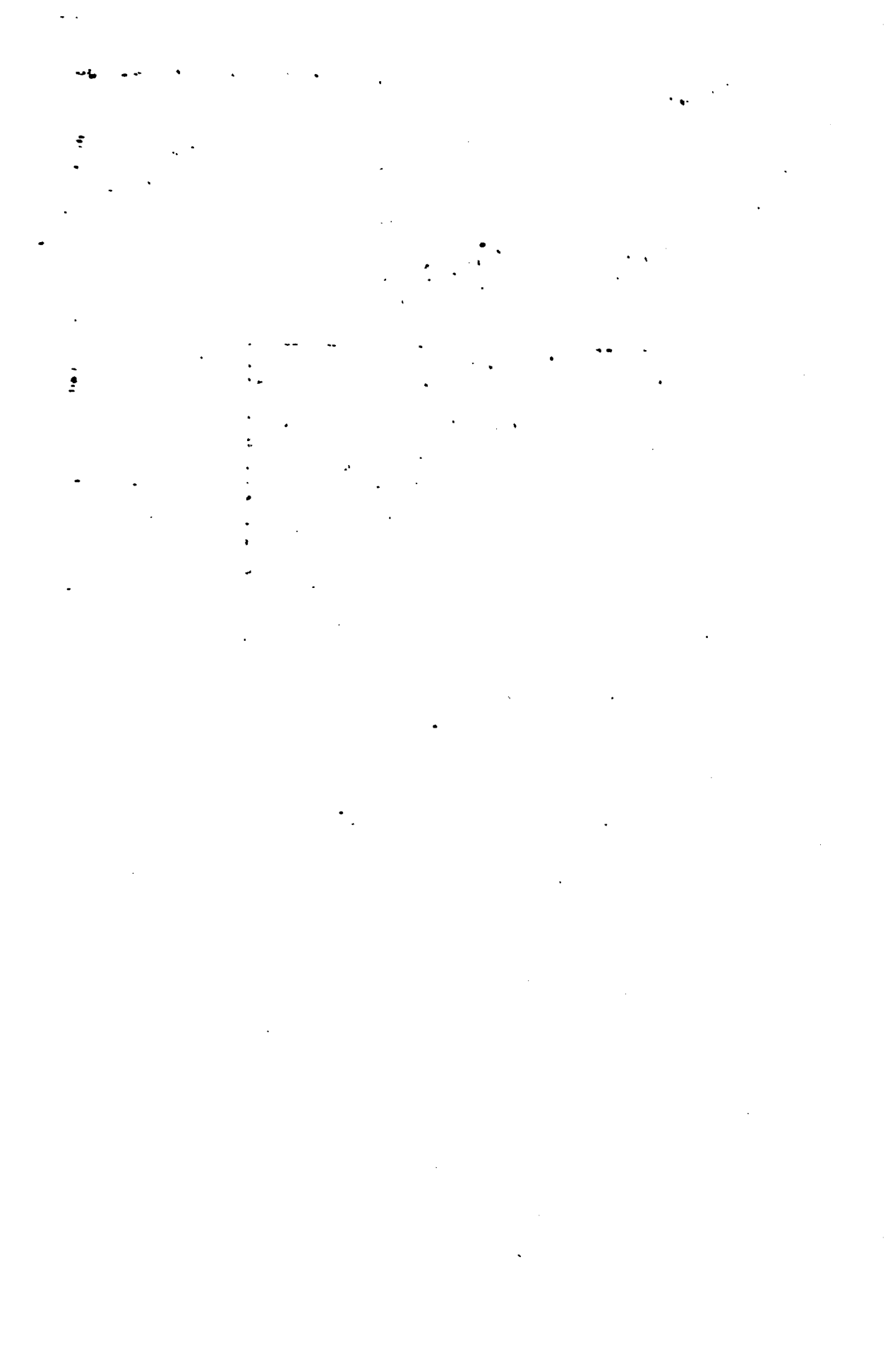
Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at <http://books.google.com/>



This book is
FRAGILE.
Please handle with care
and do not photocopy.

Thanks for your
help in preserving
Harvard's library collections.







UNIVERSITY OF CALIFORNIA PUBLICATIONS

IN

AMERICAN ARCHAEOLOGY AND ETHNOLOGY

VOLUME II

A. L. KROEBER
EDITOR

UNIVERSITY OF CALIFORNIA PRESS
BERKELEY
1911-1916

895-
12

Cited as Univ. Calif. Publ. Am. Arch. Ethn.

CONTENTS

- NUMBER 1.**—Elements of the Kato Language, Pliny Earle Goddard, pages 1-176.
- NUMBER 2.**—Phonetic Elements of the Diegueño Language, A. L. Kroeber and J. P. Harrington, pages 177-188.
- NUMBER 3.**—Sarsi Texts, Pliny Earle Goddard, pages 179-277.
- NUMBER 4.**—Serian, Tequistlatecan, and Hokan, A. L. Kroeber, pages 279-290.
- NUMBER 5.**—Dichotomous Social Organization in South Central California, Edward Winslow Gifford, pages 291-296.
- NUMBER 6.**—The Delineation of the Day-Signs in the Aztec Manuscripts, T. T. Waterman, pages 297-398.
- NUMBER 7.**—The Mutsun Dialect of Costanoan Based on the Vocabulary of De La Cuesta, J. Alden Mason, pages 399-472.

UNIVERSITY OF CALIFORNIA PUBLICATIONS

IN

AMERICAN ARCHAEOLOGY AND ETHNOLOGY

Vol. 11, No. 1, pp. 1-176, pls. 1-45

October 31, 1912

ELEMENTS OF THE KATO LANGUAGE

BY

PLINY EARLE GODDARD

CONTENTS

	PAGE
Introduction	3
Phonology	4
Individual Sounds	4
Vowels	4
Semi-Vowels	5
Continuants	5
Liquids	5
Nasals	6
Spirants	7
Stops	9
Labial	9
Dentals	9
Palatals	11
Velar	12
Glottal	12
Affricatives	13
Table of Sounds	13
Comparison of Kato and Hupa Sounds	14
Assimilation of Sounds	17
Modification of Syllables	17
Morphology	19
Nouns	19
Simple, Monosyllabic	19
With Possessive Prefixes	21
Parts of the Body	21
Clothing	23
Relatives	23
Nouns with Suffixes	23
Plural and Class Suffixes	24
Locative Suffixes	24
Suffix with Instrumental Meaning	26

	PAGE
Suffixes of Temporal-Modal Force	26
Suffixes of Size, Shape, and Color	26
Nouns compounded with Nouns	27
First Noun qualifies the Second	27
With Possessive Prefix for Second Component	27
With Second Component modifying the First	27
Nouns compounded with Adjectives	28
Nouns compounded with Verbs	29
Adjectives and Verbs used as Nouns	29
Verbs with Instrumental Prefix used as Nouns	31
Polysyllabic Nouns Unanalyzed	31
Pronouns	32
Personal	32
Personal Demonstratives	33
Demonstratives	34
Interrogative and Indefinite Pronouns	34
Adjectives	35
Pronominal Adjectives	35
Numerals	36
Cardinals	36
Multiplicatives	36
Distributives	36
Directional Words	37
Adverbs	38
Place	38
Time	38
Manner and Degree	39
Postpositions	39
Particles and Interjections	41
Verbs	42
Prefixes	42
First Position	42
Adverbial	43
Deictic	49
Objective	51
First Modal	52
Second Modal	53
Subjective	55
Third Modals	57
Stems	59
Suffixes	80
Source of Information	80
Modal	81
Temporal	83
Tenses and Modes	84
Table of Analyzed Verbs	85
Interpretation of Tracings	86
Explanation of Plates	88

INTRODUCTION

In general structure all the Athapascan languages have great uniformity. The nouns, when not monosyllabic, are built upon monosyllables by suffixes, or are sentence verbs used as substantives. The verbs have adverbial prefixes expressing spatial relations, subjective and objective prefixes expressing syntactical relations, stems which often indicate the character and number of the subject or object, and suffixes with temporal, modal, and conjunctive force.

This general structure has been rather fully discussed in the treatment of the Hupa dialect.¹ As has been said in another place,² the Kato dialect differs from Hupa sufficiently to make them mutually unintelligible. While this is due chiefly to phonetic changes, in a lesser degree it is due to differences in vocabulary, particularly nouns of descriptive meaning. The suffixes of the verbs also differ considerably. The elements which compose the words of each dialect are nearly all identical except for the phonetic changes which exist.

It has been thought sufficient, considering the treatment already given the Hupa language, to provide descriptions of the individual sounds occurring in Kato, illustrated as fully as possible with tracings; and to list the morphological elements, accompanying each with a few examples. This has been done with the expectation that the chief use made of the work would be comparative.

The material employed is chiefly that contained in Kato Texts,³ to the pages and lines of which the numerals after the examples refer. The tracings⁴ used were selected from about one thousand made in the spring and fall of 1908 by Bill Ray, from whom the texts also were obtained.

¹ Univ. Calif. Publ. Am. Arch. Ethn., III, 1905. Bureau of American Ethnology Bulletin 40, 87-158, 1910.

² Univ. Calif. Publ. Am. Arch. Ethn., v, 56, 1909.

³ Univ. Calif. Publ. Am. Arch. Ethn., v, 65-238, 1909.

⁴ For a description of the apparatus and methods consult Amer. Anthropol., n.s. vii, 613-619; and v, 1-4, of this series.

PHONOLOGY

INDIVIDUAL SOUNDS

VOWELS

The vowels occurring in Kato are a, ɤ, e, ɛ, ē, i, ī, ō, ū, and ū̄. Of these, ɤ, ɛ, are evident modifications of a and e; and i is not at all common.

a in quality is the wide-mid-back in English *father*. It has a very uniform length of .17 seconds.

ɤ is narrow-mid-back much like the vowel in English *what*. It occurs only in closed syllables, the same morphological element when rendered open having unmodified a, e.g., -kwaɤ̃, -kwaɤ̃̃. The converse, however, is not true that a becomes ɤ in closed syllables. The stem of verbs often has ɤ in the present and a in the past: te'n nōL t'as, "cut them"; te'n nesL t'ats, "I cut it up." It is probable that the stem is more strongly stressed in the latter case. The duration is usually less than that of a, being about .11 seconds.

e is open in quality as in English *net*. It is of frequent occurrence and stable in its character. In a few cases only does it become narrowed to ɛ as in English *err*. Its duration is very uniform, being about .17 seconds. In less stressed syllables it is morphologically equivalent to Hupa e of the same quality.

ī always has the closed, continental sound as in English *pique*. When stressed it is the morphological equivalent of Hupa e.

i, the open sound in English *in*, is but rarely heard. It is extremely short in duration and is detected with some difficulty. It has been uniformly written in te'in, "he said." That it was as uniformly uttered is not certain.

ō with the close quality in English *note* is of frequent occurrence, and is fairly constant in its character, with a duration of .17 seconds. It has frequently been written in place of ū as a possessive prefix, when its duration is only about .1 second.

ū has the sound of u in English *but*. It is always short in duration, about .067 seconds. It corresponds in its use in

morphological elements with *i* in Hupa; Kato *lūt*, Hupa *lit*, "smoke."

ū, close in quality as in *rule*, occurs as a possessive prefix where one might suspect its origin to be connected with *yō* and *yī*, the demonstrative. That it is not a vowel originally independent of *ō* seems probable. The closeness of quality may be due to neighboring semi-vowels. Even in this prefix it is often heard as *ō*. Its duration is usually short, about .1 second.

SEMI-VOWELS

y initially seems to begin as a surd and to pass very quickly into a sonant glide. It adds very little if any duration to syllables. When final it is written *i* and seems in some cases to have belonged to a separate syllable.

w seems to have developed in most instances from completely sonant *g* under the influence of back vowels. In a few morphological elements *w* does appear without such influences, but in certain Athapascan dialects *g* appears even in these. When the *w*-like glide after *k* is not followed by a vowel it is surd and written *w*.

CONTINUANTS

Liquids

The only sonant liquid is the lateral one, *l*. Initially in the word and after a surd spirant the first half of the *l* is surd and the latter half sonant. The first portion of the tracings (pl. 1, figs. 1, 2) shows the effect of a single flap of the tongue followed by a distinct rise of the tracing point, probably due to a greater opening of the passage. In form, the tracing resembles that for the surd spirant *l* (pl. 1, fig. 9) but is much smaller.

Between vowels (pl. 1, fig. 4; pl. 3, fig. 3; pl. 7, fig. 9) and final in the syllable (pl. 1, figs. 3, 5; pl. 9, figs. 1, 7) the sonancy is uninterrupted. When *l* is followed by a glottal stop the sonancy and apparently the duration of the sound itself are much shortened. The sound under this condition makes but little impression upon the English ear, and it is often heard as a surd. The tracings in plate 1, figures 7-9, do show a degree of

sonancy. These interrupted sonants seem to be the representatives of Hupa final L.⁵

The duration of l is about .18 seconds.

Nasals

m.—The bilabial nasal seems to occur only where b has been assimilated to a dental or palatal nasal. Examples of such assimilation are plainly seen in cases where the initial sound of a verb-stem is b. Whenever it is preceded by n or ñ, b becomes m and usually the preceding nasal becomes m (pl. 6, figs. 6, 8). The postposition bi⁵ when it follows a nasal becomes mi⁵ (pl. 4, fig. 9). There is one word with an initial m which is unexplained, main, "weasel" (pl. 6, fig. 5). The duration of this sound is about .1 second.

In common with several Athapascan dialects, Kato has b, apparently preserved, where Hupa and other dialects have m. Perhaps the change toward m began with these words where assimilation took place and afterwards was carried through the language by analogy.

Syllabic n.—In many words in Kato n stands by itself in a syllable (pl. 4, figs. 2, 3), particularly when it is the first modal prefix of verbs and adjectives, and the second personal possessive prefix before a consonant. Under these circumstances Hupa has a vowel i preceding the n. Such a vowel was imagined to exist in Kato and was at first written. This n, unlike the consonant, has no sound accompanying the release. Its duration is about .12 second.

n.—The dental consonantal n when initial usually has the sonancy beginning about .05 seconds before the release of the tongue (pl. 1, fig. 8; pl. 2, fig. 3; pl. 3, figs. 5, 6). In some instances the sonancy seems to follow the release in about .01 second (pl. 4, fig. 7), in this respect agreeing with g and d when initial.

When n occurs within a word it is sonant throughout (pl. 4, figs. 6, 7). Its duration is about .1 second.

The final nasal seems usually to be palatal rather than dental,

⁵ Present series, v, pl. 6, fig. 9.

but it becomes dental when another syllable beginning with a vowel is suffixed. In that case the *n* is often heard doubled as the final and initial sounds of the adjoining syllables. This is revealed in the tracings of plate 3, figure 1 of which shows a more complete closure of the mouth passage for the second *n*. Figure 6 of the same plate shows a decided increase in the amplitude of the vibrations of the nasal tracing, apparently due to the lower pitch of the final syllable, which happens to be favored by the tambour in use.

ñ.—The palatal nasal seems to be characterized by an incomplete closure of the mouth passage, or by its closure sometime after the lowering of the velum. This results in a nasalized sonant, palatal spirant, or a nasalized vowel, according to the degree of elevation of the back of the tongue, but since the earlier part of the vowel and the latter part of nasal are pure, the mixed character is not particularly noticeable to the ear. Final *g* also has a similar incompleteness of contact.

Often the palatal *ñ* is followed by a glottal stop (pl. 3, figs. 3-5). The sound is somewhat obscured in that case and at first the glottal stop was supposed to precede the nasal. None of the tracings reveal such an order. The glottis seems to open and the velum to fall at the same instant, causing a simultaneous raising of both tracing points. Kato seems to differ from Hupa as to the order of the glottal stop and nasal, as appears from plate 5 of volume 5 in this series.

Spirants

The spirants of Kato are four in number, *s*, *c*, *l*, and *h*, all of them normally voiceless. In a few instances the initial portion is voiced at a low pitch, probably due to the gradual separation of the vocal chords. This low-pitched voicing of the initial portion impressed the hearer, in some cases, rather than the middle and last surd portion, and the sound was accordingly recorded as a sonant. In a number of cases intervocalic *h* appears with low pitch vibrations of great amplitude continuing throughout its duration. If it be true that the glottal spirant is caused by the friction of the air current as it passes the true

vocal chords, there may well be degrees of their retraction and relaxation.

s.—When initial, the tracing of *s* is usually a regular parabolic curve (pl. 5, fig. 1; pl. 6, fig. 7), showing a duration for the sound of about .22 second. In an intervocalic position (pl. 1, fig. 7) it may appear as a straight line or as an upward curve according to the elevation of the adjoining vowel tracing. Final in the syllable, which is a frequent position because of its occurrence as a suffix, it usually appears as a regular descending parabolic curve (pl. 3, figs. 5, 6; pl. 5, fig. 2; pl. 8, figs. 2, 8; pl. 10, figs. 1, 4, 7) of from .16 to .25 of a second in length. When final in the word, *s* is sometimes quite prolonged (.33 second) and shows a depression followed by a regular elevation. The form of the curve is due to variation in breath pressure controlled in the last analysis by the size of the opening between the tongue and the palate, and possibly, though not probably, to increase in the lung pressure.

c.—When initial before a consonant *c* (*sh*) seems to be syllabic (pl. 5, fig. 4; pl. 11, fig. 5). It is distinguished from *s* with difficulty by ear and its tracings closely resemble those of that sound. In other situations in the syllable and word the remarks above concerning *s* apply to *c*. In Hupa the corresponding sound is *hw* (*-w*).⁶

l.—The position for this sound seems identical with that for *l*. The tracings of it (pl. 2, figs. 1, 2, 4; pl. 11, fig. 3) usually show evidence of a single flap or movement of the tongue and sometimes (pl. 42, fig. 12) the slighter movements which may represent the spirant character. In a few cases (pl. 10, fig. 2; pl. 8, fig. 1) the sonancy of the preceding vowel continues into the *l*, but in all other respects it is surd. The sound is of the same character as that found in Hupa.⁷ The average length is a little less than .2 of a second.

h, '.—Tracings of this sound in the initial, medial, and final ('') positions are to be seen in plate 5, figures 7-9. In duration

⁶ Work cited, v, 10.

⁷ *Ibid.*, pl. 6, figs. 2, 4, 5, 6.

it is comparable to *s* and *c*. As has been remarked above, when medial it often has low-pitched vocal chord vibrations.

g.—A sonant spirant in the postpalatal position occurs between vowels and finally. It has probably resulted from a stop, the closure being incomplete.

STOPS

Six positions and three kinds of stops may be distinguished in Kato. The positions are bilabial, dental, prepalatal, postpalatal, velar, and glottal. The dental and palatal ones occur as sonants or intermediates, aspirated surds, and surds accompanied by glottal action.

Labial

b.—In the bilabial position only one kind is found, which from its resemblance to the corresponding members of other series may be called a sonant. The sonancy, however, does not occur until after the separation of the lips (pl. 5, fig. 3); the impulse for their separation and for the approximation of the vocal chords seeming to be synchronous. In regard to the tracings it should be observed that the lips, being tightly confined within the speaking funnel, often compress the air and elevate the recording point during the closure, obscuring the effect of the release, a result quite different from that produced by the other stops.

When *b* is preceded by a nasal it is assimilated to *m*. It does not occur in the final position of the syllable.

Its duration averages about .18 seconds.

Dentals

d.—The sonancy of *d* occurs about .04 seconds after the withdrawal of the tip of the tongue from the sockets of the teeth. Perhaps that interval is required for the adjustment of the chords after the nervous impulse is received (pl. 7, fig. 1). It will be observed that laryngeal adjustment of some sort is synchronous with the initial adjustment of the tongue marked by the first vertical lines in figures 1, 2, 3 of plate 7. Since only the latter third of the sound is sonant, and since its strength of enunciation does not differ from the surd so much as is usual in European

languages, it is heard by many as a surd. The sound is not found in the final position of the syllable, nor could it be expected since in that situation the sonant portion, the end glide, is wanting.

t.—In the sound represented by t, the final glide is surd breath resulting in an aspiration perhaps a little stronger than in accented English syllables (pl. 7, figs. 4-6). In several cases t by itself composes a syllable (pl. 6, fig. 3; pl. 7, fig. 2). In similar situations Hupa has d if the sound be initial, and t if it be final, with a weak vowel if necessary. Where t and d occur in the same word t appears as a higher tracing, indicating its somewhat stronger character. In duration the closure is about .1 second and the glide about as long.

t'.—The third member of the dental series is one of those peculiar American sounds often called fortes or exploded. The upper larynx line (pl. 7, figs. 7-9) shows a rather marked depression beginning as the tongue reaches the position of closure, culminating an instant after its release, and gradually returning during the glide, the latter portion of which is sonant. In figure 9 both t' and t occur, with a definite depression for t' but none for t, although it is nearly twice as high in the lower breath tracing. The initial sound also has the depression for tc', of the same character as the sound under discussion.

It will be noticed that the recording point does not ascend so high as for d even, and immediately returns to the line marked by the preceding closure or even below it. It seems probable that the larynx tracing records a bodily movement of that organ which normally occurs when the glottis is closed by the depression of the epiglottis. The glottal stop (pl. 7, fig. 7) has a similar depression.

It seems that while the tongue is against the teeth closing the passage through the mouth the velum is raised, closing the nasal passages, and the glottis is closed by the epiglottis. The mouth and throat form at that time a closed chamber filled with compressed air which escapes as the tongue is withdrawn, causing the moderate elevation of the tracing point. Immediately after the release of the tongue, while the glottis is at least partly closed, some movement, perhaps the lowering again of the larynx, causes

a degree of suction. These sounds have a characteristic harsh effect on the ear. Examples of this sound in the final position may perhaps be seen in plate 11, figures 5 and 6. In the lower, breath, line of the latter the tongue release may be seen about 4 mm. after the last vertical line and a second one, probably the glottal release, 10 mm. after the first one. That the laryngeal movement is synchronous with, not posterior to, the dental stop, appears from the depression in the larynx line of figure 5 of this plate.

Palatals

The palatal stops seem mostly to be in the postpalatal position, the prepalatal stops apparently having become affricatives. In many cases it is rather difficult to be sure whether *tc* is uttered or a prepalatal *k* with, perhaps, a glide. There are three sorts of the postpalatal stops of the same general character as those of the dental series, and in addition considerable variation in the sonant depending upon the position in the syllable.

g.—Initially the sonancy of *g* begins, as in *d*, about .02 seconds after the release of the tongue (pl. 8, fig. 1). Between vowels, and in some cases even between vowel and consonant, the sonancy is continuous, and the contact slight and of short duration (pl. 8, figs. 2, 3). If an *ō* or *ū* follows, it is often heard as *w*. In *Hupa*, in both the initial and medial positions, *w* occurs in all vowel settings. Finally in a word and before a surd spirant the contact is incomplete and a sonant continuant is heard (pl. 8, fig. 9) written *g*.^{1a}

k.—The aspiration of the palatal surd is more noticeable than in the case of the corresponding dental. The duration of this aspiration, between the release of the tongue and the beginning of the vowel, averages .08 seconds (pl. 9, figs. 1-3). In numbers of cases this consonant is syllabic, representing the pronoun of the third person either as a possessive prefixed to a noun or the object prefixed to the verb. In this case and in some others the aspiration sounds as a surd *w*. A sound of this *kw* sort occurs finally and between a vowel and consonant (pl. 11, fig. 1). It is

^{1a} It now seems certain that two *g*'s have been confused: one, not very frequent, is intermediate; the other is fully sonant, corresponding to *w* in *Hupa*.

quite probable that the w-tinge is imparted by the remains of an *ō* or *ū* vowel. It appears that the ordinary aspirated *k* when final usually loses its third or aspirated portion and resembles an unaspirated *k*. Hupa has a surd palatal continuant (*x*) as the corresponding sound in all situations.

k'.—The third member of the series is of the same character as *t'*. Its tracings show the same depression in the larynx line and a similar reduction in the height attained by the breath tracing with the following retraction. It has a harsh, cracking sound, still more noticeable than that of *t'*. A *k* of this sort followed by *w* is also found (pl. 9, fig. 9). When final it is rather hard to be sure which *k* should be written, but it almost certainly occurs in plate 11, figure 8, and perhaps in many other words. It corresponds to the only *k* of Hupa, in which language the palatal sonants seem to have become *w*, and the aspirated surd palatal stops the surd palatal spirant *x*.

Velar

q.—A few words have a sound clearly different from the palatal sounds discussed above. This difference seems to be one of position. The sound appears to be a velar, unaspirated and intermediate as to sonancy (pl. 8, figs. 7, 8).

Glottal

That the glottal stop (*ʔ*) occurs in the initial position in a word is not certain. It is initial in the verbal stems *-ʔa*, *-ʔai*, and *-ʔan*, but these stems of course are never the first syllable of words. When intervocalic (pl. 11, fig. 9) the stop is usually heard as a short pause between the two sounds, and is likely to be overlooked as insignificant or not even noticed until attention is called to it. When it is final (pl. 1, figs. 2, 6) it is much more prominent, for in that situation its release is plainly heard as an aspiration. Its duration in this situation is much longer. Its presence may also be detected by its effect upon the vowel or consonant which it follows (pl. 11, fig. 3). It has the result of reducing the duration of a preceding sonant (vowel, liquid, or nasal) to be about one-half of the usual length.

AFFRICATIVES

The classification of the affricatives (stops plus spirants) is rather difficult in Kato. A sonant dj occurs in a number of syllables (pl. 10, figs. 1, 4), but there is usually some question as to the sonancy and also the position; dj, g, tc, and ky at first having been written for the same sound. An unmistakable surd tc also occurs with aspiration which takes place through the sh (c) position (pl. 10, figs. 2, 5).

A surd with glottal accompaniment (tc') is frequent (pl. 10, figs. 3, 4, 6, 9); a deictic prefix of this sort being present in a large number of verbs. It is often syllabic.

It is rather doubtful if ts occurs in any large number of cases. The diminutive suffix, of very frequent use in Kato, often sounds as much like ts as it does like tc. This is probably due to the fact that the second part of the sound is formed in a position or in a manner between s and sh as heard in English.

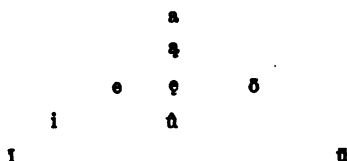
L.—In some cases a lateral surd consonant of an l character seems to be accompanied by the same sort of glottal or epiglottal action which affects the surd stops and the affricative tc'. This is especially plain in the tracing plate 2, figure 7. The effect, as in the other sounds of this character, is to reduce the energy of the breath, as is uniformly shown by the height of the tracings, and at the same time to impart a harshness which is strikingly noticeable.

TABLE OF SOUNDS

	Stops			Continuants					
	Intermediate or Sonant	Aspirated Surd	Glottally Affected Surd	Spirants	Sonant Affricative	Surd Affricative	Glottally Affected Affricative	Nasal	Liquid
Bilabial	b							m	
Apical-dental	d	t	t'	s		ts	ts', s'	n	
Median-prepalatal				c	dj	tc	ts'		
Lateral-prepalatal				L			L		l
Post-palatal	g	k	k'	g				ŋ	
Velar	q								
Glottal			ʔ	h, h'					

Semivowels: y, w.

Vowels.



COMPARISON OF KATO AND HUPA SOUNDS

Kato a and ā correspond to Hupa a and ā (written û).

Kato a', cloud; Hupa a, cloud.

Kato ya gūL gal, he threw up; Hupa ya wīL waL, he threw through the air.

Kato e; Hupa e.

Kato t'ec, coal; Hupa, teūw, coal.

Kato tes del', Hupa teit tes deL, they went.

Kato ī; Hupa e.

Kato cī, I; Hupa, hwe, I.

Kato dō gīs īā, one could not see; Hupa dō xō dū wes en, it could not be seen.

Kato ō; Hupa ō.

Kato Lō', grass; Hupa Lō, grass.

Kato nō te'ūn tō', water reached; Hupa nō it tō, the water comes.

Kato ū; Hupa i.

Kato lūt, smoke; Hupa lit, smoke.

Kato nas ūts, he ran about; Hupa nas its ei, he ran about.

Kato gūl lūt, it burns; Hupa wil lit, it burns.

Kato y; Hupa y.

Kato ya', louse; Hupa ya, louse.

Kato ye nat ya, he went in; Hupa ye na wit yai, he went in.

Kato l; Hupa l.

Kato lāt, seaweed; Hupa la, seaweed.

Kato te'ūs lī', he caught in a noose; Hupa tsis loi, he tied in bundles.

Kato te't te lōs, he led; Hupa na te lōs, she dragged back.

Kato L; Hupa L.

Kato Lōn, squirrel; Hupa Lōn, mouse.

Kato Lelyits, he tied together; Hupa Le illoi, he tied together.

Kato te'e nan la, he jumped out; Hupa tee il lat, he jumped out.

Kato L; Hupa L.

Kato ū Lōl, its straps; Hupa Lōl, strap.

Kato te'Loi ūfī gī, she is making a basket; Hupa ke it Lō, she used to make baskets.

Kato syllabic n; Hupa n and i or other vowel.

Kato n teel', your younger brother; Hupa nit tai, your paternal uncle.

Kato n das sī, it is heavy; Hupa nit das, it is heavy.

Kato n; Hupa n.

Kato ne', land; Hupa nin, ground.

Kato na nūn yai, she started across; Hupa na nifī yai, he crossed.

Kato ñ; Hupa ñ or n.⁸

Kato ō te'ūñ', toward it; Hupa xō teif, toward her.

Kato de t gūn'afī, he put it in the fire; Hupa de dū wifī an, he put in incense.

Kato s; Hupa s.

Kato ū sūts, its skin; Hupa sits, skin, bark.

Kato dō kw ne sūñ, I was insensible; Hupa ai ne sen, I thought.

Kato c; Hupa hw.

Kato ca, moon; Hupa hwa, moon.

Kato nec in tē le, let me look; Hupa nūw ifī, let me look.

Kato nl eññ', black; Hupa lū hwin, black.

Kato b; Hupa m.

Kato būñ k'ūt, lake; Hupa mūñk, lake.

Kato bee ya hūt, he climbed up when; Hupa me is la dei, he ran up.

Kato na'be, swim (plu. imp.); Hupa nauw me, let me swim.

Kato d; Hupa d.⁹

Kato ū da', his mouth; Hupa xōt da, his mouth.

Kato da nō la, she put it up; Hupa da na wil lai, she put it.

Kato bē dūl, let us climb; Hupa wei dūl, we will go.

Kato dj; Hupa dj.

Kato dje', pitch; Hupa dje, pitch.

Kato dje' gūl teel, he split open; Hupa dje wil kil, he tore open.

Kato t, Hupa t.

Kato tō, water; Hupa tō, ocean.

Kato te'te' gūn tal', he stepped in water; Hupa te nō dū win tal, he stepped in water.

⁸ It is not certain that this is a phonetic change. The occurrence of n and ñ in Hupa stems regularly marking temporal-modal changes may have been extended by analogy.

⁹ When a prefix such as follows de-, in fire, stands alone, it becomes t in Kato, e.g., de t gūn 'an (Hupa de dū win an), he put on the fire; but otherwise it is d also in Kato, as in de dūn 'ac, put on the fire.

Kato t'; Hupa t.¹⁰

Kato t'e', blanket; Hupa te, blanket.

Kato ta gât t'ats, he butchered; Hupa kit te tats, he cut them.

Kato tc; Hupa tc.

Kato L teûc, dust; Hupa Lit teûw, sand.

Kato wa nûn tei bâfi, it will blow through; Hupa da kyû wes tee, the wind blew.

Kato tc; Hupa tew.

Kato c teô, my grandmother; Hupa mite tewô, its grandmother.

Kato ûL tei, make it; Hupa il tewe, make it.

Kato te'ûn gûn tee ge, he cried; Hupa teû win tewû, he cried.

Kato tc; Hupa k (prepalatal).

Kato teûn, tree; Hupa kin, tree.

Kato n teel', your brother; Hupa mik kil, her brother.

Kato gûl teût, he caught them; tee xôL kit, he caught him.

Kato te'; Hupa tc, ky.¹¹

Kato te' nes tifi, he lay down; Hupa tein nes ten, he lay down.

Kato te' gûn yan', he ate of it; kyû win yan, he ate it.

Kato g; Hupa w.

Kato gûL gel', it was evening; Hupa wil weL, dark, night.

Kato sel gîn, he killed; Hupa tee sel wen, he killed.

Kato k; Hupa x.

Kato kai hit', winter time; Hupa xai, winter.

Kato kya ci', they dug; Hupa xa ke hwe, she commenced to dig.

Kato wa'ûfi kan, she gave him; Hupa xô wa teifi xan, she gave her.

Kato kw; Hupa x.

Kato kwôfi', fire; Hupa xofi, fire.

Kato kw na', his eyes; Hupa xon na, his eyes.

Kato kwa'la, you did; Hupa xa ûl le, do that.

Kato k'; Hupa k. (The same sound.)

Kato k'at de', soon; Hupa kût de, soon.

Kato k'e te'ûs t'ats, he cut; Hupa kit te tats, he cut them.

Kato nûn ûn dûk k'e', get up (imp. sing.); Hupa in na is dûk ka, she got up.

Kato k'w; Hupa k.

Kato k'wât', on; Hupa kât, on.

Kato q; Hupa q.

Kato qô, worm; Hupa qô, worm.

Kato ûfi qôt, spear it; Hupa ya a qôt, they always stuck them.

¹⁰ Hupa t is but an earlier orthography for t' used in Kato.¹¹ In Hupa te with glottal accompaniment was not differentiated from the few occurrences of simple tc.

ASSIMILATION OF SOUNDS

The instances of assimilation noticed are the following:

b following n or ñ becomes m:

kwōñ' mī' (for kwōñ' bī'), fire in. 119-13.¹²

kwōñ' mūñ a (for kwōñ' būñ a), fire before. 119-16.

tām mie (for tūñ bīe), swim. 118-16.

t final in verbal stems followed by b or k is assimilated:

ûl teak kwan (for ûl teat kwan), you shouted. 164-17.

na sōl Lûk kwañ (for na sōl Lût kwañ), you have burned? 174-4.

û na nûn Lûb būñ (for û na nûn Lût būñ), around you must burn.
104-10.

nōl kûb būñ (for nōl kût būñ), will float ashore. 85-10.

t' of k'wût', on, becomes n before words beginning with n:

k'wûn na gai, on it he walked. 78-1.

k'wûn nōl tiñ, she put it on. 181-3.

g preceded by ñ becomes ñ or disappears:

na hûñ ət (for na hûñ gət), you untie. 123-7.

te'ēñ a nī (for te'ēñ ga nī), killed. 157-5.

te'n nûñ iñ (for te'n nûñ giñ), he brought. 135-11.

MODIFICATION OF SYLLABLES

It is well known that syllables of greater importance of meaning are rendered more emphatic by methods which are characteristic of the languages in which they occur. English, in common with other languages of Germanic origin, has a strong stress accent. Ancient Greek and certain modern Slavic languages have a variation in pitch. Variations of stress are undoubtedly due to changes in the pressure exerted by the lungs upon the air column and are brought about by an unusual incitation of muscles controlling breathing. The increase of pitch, in like manner, is due to an extra forcible incitation and contraction of certain muscles of the larynx.

It seems that in Kato and other Athapascan dialects there are similar grades in the force exerted by the muscles in closing and adjusting the mouth passage. It was formerly held that these were secondary effects of stress accent, although such accent is

¹² The references are to the pages and lines of the author's *Kato Texts*, Univ. Calif. Publ. Am. Arch. Ethn., v., 65-238, 1909.

nearly absent at the present time. It seems more reasonable to look upon these differences of enunciation as coördinate with, if not independent of, stress and pitch.

Such differences in muscular tension of the walls of the mouth, and of the tongue should alter the resonance of the buccal cavity, and the quality of the vowels, render stops and affricatives simple spirants, and cause final consonants to disappear.

The following diphthongs lose their final component :

- ai becomes -a, stem, to have, position.
- yai becomes -ya, stem, to go.

The quality of the vowels changes in the following :

- ta- becomes tāt-, prefix, relating to water.
- ka- becomes kāl-, prefix, up.
- ye- becomes yī-, prefix, in.
- del' becomes -dûl, stem, go.
- sil' becomes -sûl, stem, to strike.
- kō- becomes kwûl-, prefix, down.

The sonant l becomes a surd spirant L :

- dûl becomes -dûL, stem, of swimming fish.
- kal becomes -kaL, stem, to break.
- qal becomes -qaL, stem, to walk.

Affricatives become spirants :

- yats becomes -yas, stem, to snow.
- yîc becomes -yîc, stem, to rest.
- gets becomes -gûc, stem, to look.
- k'ats becomes -k'as, stem, of long object.

Final stops disappear :

- lat becomes -la, stem, to jump.
- yôt becomes -yô, stem, to chase.
- yeg becomes -ye', stem, to drive deer.
- lag becomes -la', stem, to do.
- k'ag becomes -k'a', stem, to be fat.

Not only is the duration of the entire syllable lessened in these instances in which a diphthong becomes a simple vowel, an affricative a simple spirant, and a final stop disappears, but vowels in the weaker forms are shorter.

Stress and pitch seem to vary but slightly except that at the conclusion of a sentence or any part of it spoken separately the voice falls much as in English.

MORPHOLOGY

NOUNS

The nouns of Kato are of the same sort and fall into the same classes as Hupa nouns already fully discussed.¹³ In the first class, monosyllables without evidence of formative elements, there have been found sixty-eight. Of such Hupa nouns forty-eight have been listed.¹⁴ Of these Kato nouns sixteen are believed not to exist in Hupa either as simple words or elements of words, while seven of the Hupa monosyllables are not known in Kato. The Hupa have descriptive names in the place of these Kato nouns, the apparently original ones. In several instances the change appears to be recent. The ordinary Hupa word for water is *tan an*, what one drinks, but *tō* is still employed in compounds. Nouns similar to these Kato words are generally in use throughout the territory intervening between Hupa and Kato territory and are to be considered Athapascan nouns that have disappeared in Hupa.

SIMPLE, MONOSYLLABIC

The following nouns seem to have no formative elements.

- a'*, cloud. 74-6. (Pl. 12, fig. 1.)
- al*, firewood. 137-16.
- ya'*, sky. 77-13. (Pl. 12, fig. 2.)
- ya'*, head louse. 152-5. (Pl. 12, fig. 3.)
- yas*, snow. 74-3. (Pl. 12, fig. 4.)
- ye*, house. 97-6. (Pl. 15, figs. 13, 14.)
- yō'*, scoter. 122-6. (Pl. 5, fig. 9.)
- yō'*, bead. 145-7.
- wōs*, leg. 79-10. (Pl. 5, fig. 3; pl. 12, fig. 5.)
- lāt*, seaweed. 84-12.
- lō* (lōō), frost. 74-3.
- lets*, clay. 80-1.
- lōn*, rodent, squirrel. 96-9. (Pl. 2, fig. 1; pl. 20, fig. 2.)
- lōk'*, steel-head salmon. 84-5. (Pl. 12, fig. 6.)
- lāt*, smoke. 141-2. (Pl. 12, fig. 7.)
- Le'*, night. 81-4.
- Lō'*, herb, grass. 71-3. (Pl. 2, fig. 8; pl. 12, fig. 8.)
- main*, weasel. 74-2. (Pl. 6, fig. 5.)

¹³ Present series, III, 13-29, 1905; Bur. Am. Ethn. Bull. 40, 106-110, 1910.

¹⁴ *Ibid.*, III, 13.

- ne^c, land, earth. 71-1; 74-9. (Pl. 20, fig. 9.)
 sai, sand. 85-9.
 se, stone. 71-3. (Pl. 5, fig. 1.)
 sia, otter. 73-4.
 slûs, ground squirrel. 73-7. (Pl. 12, fig. 10.)
 sk'e^c, mush. 110-8.
 ca, sun. 74-9. (Pl. 12, fig. 11.)
 eek', spittle. 154-14. (Pl. 12, fig. 12.)
 cic, ochre. 80-4. (Pl. 15, fig. 12.)
 cle^c, orioles. 72-13.
 bañ, doe, female. 165-9, 182-2.
 bel, rope. 101-7. (Pl. 12, fig. 13.)
 bûs, alide. 86-11. (Pl. 12, fig. 14.)
 bût', stomach. 110-1.
 dañ, pile. 133-10; 181-6.
 del, whooping crane (f). 73-14.
 djañ, mud. 155-6.
 dje^c, pitch. 137-13.
 djiñ, day. 82-8.
 tō, water. 71-1. (Pl. 7, fig. 4; pl. 12, fig. 15.)
 tûts, cane. 174-7.
 ts'al, basket cradle. 113-12.
 ts'i^c, brush. 76-7.
 ts'ûñ, bone. 110-1.
 tcûn, tree. 71-3.
 te'añ, food. 85-5.
 te'ek, woman. 83-15.
 te'i, boat. 127-10.
 te'o^c, black-bird. 72-15.
 te'ûñ, noise. 107-8.
 t'a^c, feather. 105-14. (Pl. 7, fig. 7.)
 t'e^c, blanket. 110-5.
 t'ee (t'eece), coal. 143-7; 147-9.
 ges, black salmon. 84-3. (Pl. 12, fig. 16.)
 gac, yew.
 ka^c, goose. 73-14.
 ka^c, a feather headdress. 176-17.
 kai, winter.
 kōs, cough. (Pl. 12, fig. 17.)
 kwe^c, track. 108-13.
 kwōñ^c, fire. 81-3. (Pl. 4, fig. 5.)
 kwōt, stream, creek. 90-15.
 kwōc, whitethorn (a shrub). 166-3.
 k'a^c, arrow. 110-10.
 k'ai^c, hazelnuts. 94-5.
 k'ñ^c, junberry. 133-3. (Pl. 4, fig. 8; pl. 11, fig. 2.)
 k'ûñ^c, hazel. 133-10. (Pl. 12, fig. 20.)
 k'ûc, alder. (Pl. 12, fig. 18.)
 k'wa^c, fat. 83-15. (Pl. 12, fig. 19.)
 qō, worms. (Pl. 8, fig. 7.)

WITH POSSESSIVE PREFIXES

Nouns capable of intimate possession, such as parts of the body, and terms of relationship, seldom or never occur without a possessive prefix. These prefixes are:

a-, reflexive.

a t'a, her own blanket fold. 181-9. (Pl. 7, fig. 8; pl. 13, fig. 1.)

c- or s-, first person singular.

c dji', my heart. (Pl. 13, fig. 14.)

n-, second person singular.

nat, your sister. 132-4. (Pl. 13, fig. 10.)

nō', first person plural.

nō'si', our heads. 129-10. (Pl. 5, fig. 8.)

nō', second person plural.

nō'si', your heads. 172-15.

nō'nan, your mother. 135-2.

n h-, second person plural.

n hūnte, your (pl.) noses. 97-9.

b- or bi-, third person of singular or plural definitely mentioned or understood persons or things (pl. 14, fig. 3).

būnte, his nose. 80-7.

bi ne', its (feather's) back. 127-5.

ū- or ō-, third person singular or plural of persons, animals, or objects (pl. 13, figs. 2-9).

ū na', her eye. 152-10. (Pl. 13, fig. 5.)

ū tea', her apron. 165-8. (Pl. 13, fig. 3.)

kw-, third person singular or plural of persons or things referred to indefinitely.

kw da', his mouth. 123-2. (Pl. 14, fig. 7.)

kūc-, third person plural.

kūc na taq ha', without their knowledge. 155-8.

tc', third person of detached, unassociated members.

tc' si', head. 128-5.

*Parts of the Body*¹⁵

-ūnte, nose. 80-7; 98-2.

-we ci, eggs. 111-9.

¹⁵ III, 14-16.

- wō^o, tooth. 181-8. (Pl. 4, fig. 2; pl. 14, fig. 4.)
- wōs, leg. 151-18. (Pl. 5, fig. 3.)
- la^o, hand. 154-1; 164-1.
- lai^o, penis. 80-8.
- La, butt. 93-10.
- na^o, eye. 180-7. (Pl. 13, fig. 5.)
- ne^o, back, back-bone. 133-3.
- ne^o, lower leg. (Pl. 13, fig. 12.)
- sa ye, its shell. 131-9.
- sa ke^o, spleen. 133-4.
- si^o, head. 76-1. (Pl. 5, fig. 8.)
- si^o da^o, crown of head. 79-4. (Pl. 14, fig. 12.)
- sō^o, tongue. 110-3. (Pl. 13, fig. 4.)
- sō se^o, sting. 156-1.
- sūfi^o, meat. 134-14.
- sūn ta^o, forehead. 132-15.
- sūts, skin. 110-4. (Pl. 13, fig. 7.)
- sle^o, anus. 143-13.
- būt', stomach. 148-6. (Pl. 11, fig. 5.)
- da^o, mouth. 122-13. (Pl. 14, fig. 7.)
- da^o, voices. 106-14.
- da^o ga^o, beard.
- de^o, horn. 74-10. (Pl. 13, fig. 9.)
- des ke^o, lungs. 180-12.
- di ee^o, shoulder. 75-1.
- dji^o, heart. 125-17. (Pl. 13, fig. 14.)
- dji k'e^o, intestines. 113-3.
- te le^o, liver. 180-12.
- t'a, tail. 86-4.
- t'ai, neck. 153-11.
- ts'e k'e, navel. 132-10.
- ts'in ne, leg. 107-12.
- ts'ō^o, milk. (Pl. 13, fig. 6.)
- te'a ni, faeces. 142-7.
- tei^o, tail. 163-1. (Pl. 14, fig. 5.)
- tei^o, mind. 101-14.
- tei^o, heart. 101-5. (Pl. 5, fig. 4.)
- dji eie te^o, lungs. 80-2.
- teō djil, kidney. 80-2. (Pl. 14, fig. 11.)
- teōk, testicles. 80-9.
- te'ge^o, ear. 110-2.
- ga^o, hair. 143-8.
- ge^o, marrow. 110-2.
- ki^o, butt.
- kwa ne, shoulder, arm. 102-15; 160-7.
- kwafi ke, ribs. 133-9.
- kwe^o, foot. 96-14. (Pl. 14, fig. 8.)
- qōt', knee. (Pl. 13, fig. 13.)

Clothing

- Lól, strap. 97-7.
- t'a, pocket, blanket fold. 181-9. (Pl. 13, fig. 1.)
- t'a nī, skirt. 165-6. (Pl. 13, fig. 2.)
- tea', apron. 165-8. (Pl. 13, fig. 3.)

Relatives

- at', sister. 132-4. (Pl. 13, fig. 10.)
- ite, daughter. 128-7.
- únt, -ún dī, cousin. 139-4; 145-2; 146-3. (Pl. 14, figs. 1, 2.)
- yaets, young. 80-14; 182-4.
- ya teete, daughter. 176-10.
- ye' dūñ, husband. 132-14.
- lō, dog. 101-6.
- nan, mother. 105-7.
- ta', father. 105-7.
- t'ē cī', sister. 144-4.
- teel', younger brother. 141-12.
- teai, grandchild. 97-16; 148-11. (Pl. 14, fig. 13.)
- teō, grandmother. 97-16. (Pl. 13, fig. 15.)
- teññ ka nai, uncle. 172-3.
- te'gī, grandfather. 153-10. (Pl. 13, fig. 11.)
- ge dūñ, brother-in-law. 153-18.
- gūn dan, son-in-law. 128-7.
- kī, boy. 102-6. (Pl. 14, fig. 9.)
- kik, children. 105-2.

NOUNS WITH SUFFIXES

Nouns as such never seem to be used with prefixes other than the possessive ones. They take, however, a large number and variety of suffixes. With the exception of those first listed, these suffixes have very definite meanings and most of them are traceable to other parts of speech. Those indicating size, shape, and color differ from adjectives only in the absence of the usual prefixes before the stem. The postpositions used with nouns are not different from those forming phrases with pronouns, but in a few cases the noun does not seem to exist without the suffix. These postpositions might easily become inflectional cases should they suffer obscuring phonetic changes or their use except as nominal suffixes cease.

Plural and Class Suffixes

-kī, -k, forming the plural of terms of relationship and classes of people.

te'yan, woman. te'yan kī. women. 110-15.

skī, boy. 116-16. skik, boys, children. 132-8. (Pl. 14, figs. 9, 10.)

-teũñ, a suffix indicating one of a class, "that kind of a person."

te'yan teũñ, old woman. 152-3.

steõ teiñ, my grandmother. 147-5.

-ta, the plural of the last.

kac kits, old man. 108-2. kac kits ta, old men. 109-15.

-k'ũct̃s, of uncertain meaning.

te'yan k'ũct̃s, old women. 105-1.

-kī ya hũñ, a class suffix used particularly with place names. It is the usual termination of the people of a village as distinguished from the locality.

tõ kī ya hũñ, water people. 175-1.

-gũñ, of uncertain meaning.

L tẽõ gũñ, foxes, "the ones that are blue"(†). 73-3. (Pl. 8, fig. 3.)

Locative Suffixes^{15a}

-dũñ, at.

ye dũñ, house place. 113-15.

yĩ teõ dũñ, dance house place. 145-6.

se ta'dũñ, rock creek. 107-16.

tõ n cõn dũñ, water good place. 173-7.

-ta', among.

ye bĩ' ta', houses among. 171-17.

ne' k'wũt ta', countries. 157-6.

n cõn ta', good places. 173-6.

ca'na'ta', creeks, creeks in. 82-14; 93-11.

teũn ta', trees among. 171-9. (Pl. 15, fig. 6.)

õ ye ta', under places. 180-1.

-te'ũñ', toward.

tõ te'ũñ', water toward. 176-6.

e nan te'ũñ', my mother toward. 120-11.

-bĩ', in.

ye bĩ', house in. 97-11.

õ da' bĩ', its mouth in. 128-15; 182-5.

^{15a} See also the postpositions used with pronouns, p. 39.

wa te'a mi^c, hole in, 156-12. (Pl. 4, fig. 9.)
 sak tō^c bi^c, spring in. 115-10.
 cīc bi^c, red mountain, 102-15. (Pl. 15, fig. 12.)
 ts'al bi^c, basket in. 115-10.
 kwō^c mi^c, fire in. 110-4.

-bi^ck', inside.

ya'bi^ck', sky in. 101-15. (Pl. 15, fig. 15.)
 ye bi^ck', house inside. 99-5. (Pl. 15, fig. 14.)
 tō bi^ck', water inside. 155-4.
 ō la^c bi^ck', its hands in. 114-8.

-bi^c ūñ^c, toward, in.

ya'bi^c ūñ^c, sky in. 81-2; 99-10.
 ye'bi^c ūñ^c, house in. 110-15. (Pl. 15, fig. 13.)

-k'wūt', on.

ō tei^c k'wūt', its tail on. 162-14. (Pl. 9, fig. 9; pl. 20, fig. 1.)
 ū si^c da k'wūt', crown of its head on. 76-5.
 ū de^c k'wūt', its horn on. 76-3.
 ne^c k'wūt', land on. 92-2.
 tō k'wūt', water on. 82-1.

-ū ye, -wī-ye, under.

ca ū ye hūñ, sun under. 75-4.
 teñ wī ye, tree under. 97-3.

-tūk gūt, between.

ō na^c tūk gūt, its eyes between. 76-2.
 ye tūk gūt, house middle. 142-13. (Pl. 16, fig. 1.)

-L'ūt, middle (time or place).

ne^c L'ūt, earth middle. 75-3; 104-11. (Pl. 16, fig. 4.)
 cin L'ūt, summer middle. 121-14.
 ta L'ūt, ocean middle. 126-8. (Pl. 16, fig. 7.)
 kai L'ūt, winter middle. 113-14.

-būñ a, before, alongside of.

kwōñ^c mūñ a, fire before. 119-16.

-ne^c ūñ^c, other side of, "its back towards."

tō ne^c ūñ^c, water other side. 126-6. (Pl. 11, fig. 9.)

-ū nō^c, behind.

ne^c ū nō^c, hill behind. 164-16. (Pl. 4, fig. 7.)
 teñ nō^c, tree behind. 103-5.

-lai^c, on top, "summit, point."

ne^c lai^c, earth top. 161-14.
 ū laik', their tops. 132-15.
 kw tei^c lai^ck', his tail end. 177-12.

Suffix with Instrumental Meaning

-bûl, with, by means of.

na gī bûl, quiver with. 176-16.

ts'al bûl, basket with. 148-2.

tca' bûl, dress with. 166-6.

k'a' bûl, arrows with. 166-7.

k'âm mûl, withes with. 167-1.

Suffixes of Temporal-Modal Force

-bûñ, for, will be (usually expresses purpose but sometimes predictions of the future only).

a' bûñ, cloud will be. 79-2.

a' bûñ, for clouds. 78-8.

ô telî' bûñ, its liver for. 109-6.

sak tō' bûñ, "spring will be." 88-4.

-wûñ, for.

te'a wûñ, food for. 123-3.

tō wûñ, water for. 118-4, 123-3.

-hît', -hût, at time of.

ciñ hît', summer time. 121-5.

ciñ hût, summer time. 155-1. (Pl. 16, fig. 6.)

đjiñ hât, day time. 105-7.

kai hît', winter-time. 121-11.

-ût, at (perhaps a form of the last).

Le' ût, night in. 136-1.

-ye, it is (simple affirmation).

ne' ye, country is. 120-14.

e nañ ye, my mother is. 120-11.

dō ū sūñ' yī, it is not meat. 134-14.

dō L gûc ye, it is not rattlesnake. 177-4.

-ûñ gī, it is (affirmation with element of surprise).

ca ûñ gī, sun it is. 100-7.

-tē le, will be.

k'ai t bûl tē le, burden baskets will be. 140-12.

Suffixes of Size, Shape, and Color

-tcō, large, an augmentative suffix.

Lō' tcō, bunch grass. 94-7.

đuc tcō, grouse. 72-5.

gac tcō, redwood (gac, yew). 86-8. (Pl. 14, fig. 14.)

ges tcō, elk (ges, deer in other dialects). 71-5. (Pl. 14, fig. 15.)

-tc, -ts, small, a diminutive suffix also used to form terms of endearment. Cf. ū tc'ûnts, close by, from -tc'ûn^e, by or near.

dâtc, quail. 72-5. (Pl. 14, fig. 16.)

yîtc, wolf. 71-6. (Pl. 15, fig. 1.)

e tcate, my grandchild. 97-16. (Pl. 14, fig. 13.)

e lôts, my dog. 89-14.

-yac, young, small.

s kits yac, baby small. 113-12.

With both diminutives.

nô nî yacts, grizzly small. 92-5.

ca'na' yacts, creek little. 115-13.

Cf. e yacts, my little one. 182-4.

Cf. se ū yacts, stones small. 76-10. (With possessive prefix ū.)

-sôs, slender.

de' sôtc, spike back. 108-8.

-tel, -teL, wide, flat.

Lô' tel, flat fish (?)

Lô' teL, bear grass. 176-17.

ts'ûn tel, "bone-wide" turtles. 90-14. (Pl. 15, fig. 5.)

Cf. se n telts, stone flat small. 133-3. (With adjective prefix.)

NOUNS COMPOUNDED WITH NOUNS¹⁶

The First Noun qualifies the Second

in tce' bañ, deer female. 144-2.

dâs t'e kô ne, madrone berries. 134-17.

tô a' bûñ, "water cloud," for dew. 79-4.

tô sî' dûn, water-head-place. 87-6.

tô bût teô, water panther. 177-13. (Pl. 20, fig. 8.)

teûn wô', "tree teeth," hook. 158-7.

teûn sî' ts, "tree head small," pine cones. 115-13, 117-12.

teûn sûts, "tree skin," bark. 137-14.

ges na', salmon eye. 121-12.

k'a' s'ûl tîñ', arrow-bow. 144-9.

With Possessive Prefix for Second Component

ne' ū tci' dûñ, earth tail place. 86-9.

te' kak' bî ne', net's back-bone. 119-18.

With the Second Component modifying the First.

Lôn te' ge nes, "rodent-ears-long," a mouse. 73-10. (Pl. 2, fig. 1.)

tô nai wô' nes, "fish-teeth-long." 86-1.

¹⁶ III, 19.

NOUNS COMPOUNDED WITH ADJECTIVES

-n tcaḡ, large.

ne^e n tcaḡ, country large. 97-16.

tō nai n tcaḡ, fish big. 85-11.

wō^e n tca', teeth large. 86-5. (Pl. 4, fig. 2.)

-n cōñ, good.

tō n cō nit, water is good because. 87-10.

-n ce^e, bad.

ne n ce^e, land bad (mud springs). 106-2.

-nes, long.

la^e nes, "hand long," raccoon. 112-5. (Pl. 1, fig. 1.)

Lō^e nes, grass long. 80-3.

tca nes, wasp. 150-14.

ts'e k'e nects, "navel long," an eel. 91-2. (Pl. 20, fig. 7.)

-n telts, broad.

kwe^e n telts, "foot broad," a heron. (Pl. 20, fig. 11.)

da^e ya^e n tel i tēō, "mouths are flat large," geese. 158-14.

-n Lûts, stout, rough.

tō n Lûts, water rough. 86-6.

-L gai, white.

ya^e L gai, louse white. (Pl. 15, fig. 8.)

Lōn L gai, woodrats. 73-9. (Pl. 20, fig. 2.)

naL gi L gai, white duck. 148-3.

seL gai, white stones. 143-4.

-L teik, red.

yō^e L teik, beads red. 176-14.

tō nai L teik, fish red. 124-15.

-L tsō, blue.

Lō^e L tsō, grass blue. 76-6. (Pl. 2, fig. 8.)

tō nai L tsō, fish blue. 124-15. (Pl. 20, fig. 12.)

-L cūñ^e, black.

tō L cūñ^e kwōt, black water creek. 98-14.

ges L cūñ^e, salmon black. 86-2. (Pl. 15, fig. 10.)

-L cik, shining.

na^e L cik, eye shining. 181-9. (Pl. 15, fig. 11.)

-dûl bai, grey.

ne^e dûl bai, (a pine). 86-13. Pl. 20. fig. 5.)

Lete ba, grey clay. 76-2.

-dûl k'ûs, brown(?).

Lō^e dûl k'ûs, grass dry. 121-13.

-L tûk (ʔ)

tûn L tûk, leaves die(ʔ). 121-13.

-t biñ, sharp, pointed.

sí' t biñ, "heads sharp," a bulb. 149-4.

-tc'its, rough.

se tc'its, sandstones. 77-9. (Pl. 16, fig. 3.)

-Lañ, many.

wō' Lañ, "teeth many." 149-1.

The two following probably have descriptive adjectives.

ta dâl gai tcō, hornet. 151-2.

ta dâl k'ûts, milksnake. 178-9.

NOUNS COMPOUNDED WITH VERBS

yictc s'âl tiñ kwât, "wolf lies dead stream," Ten-mile creek. 173-14.

yō' gût Lōñ, "beads woven." 176-13.

yō' tcil 'iñ, "bead"(ʔ), abalones. 84-12. (Pl. 20, fig. 6.)

Lō' n'ai, "grass lies," grass game. 146-11. (Pl. 20, fig. 4.)

ne' te li', earthquake. (Pl. 20, fig. 9.)

nûn kwōs tiñ, wild cherries. 131-12.

sai s'an dññ, "sand lies place," sandy beach. 125-4.

sí' bis 'an, "head(ʔ)", head net. 113-8; 147-1.

sûts bûl nûl t'ai, "skin with it flies," flying squirrel. 122-12.

sne' bûl gûl li', "my leg with is tied," my garter. 176-16.

tō ka li gits, "water(ʔ)", mud-hen. 122-9.

tsō' kwī t'ñ, "milk it has," a plant. 149-2.

tcû nal dals, "tree-run-around," a bird. 124-5.

tcûm meL yits, "stick tied with," net stick. 169-5.

tcûn ta' nac t bats, "tree among(ʔ)". The name of a monster.
181-10.

tcûn kw t'ñ, "tree (trunk) (ʔ) it has," a kelp. 84-15.

t'ant gûl yōs, devil-fish. Contains stem -yōs, to pull. 85-13; 124-16.

t'a kwil ñ, "feathers they have," birds. 88-8.

gae tcō k'wût kwī ya gits, "redwood on it runs," red squirrels. 73-7.

k'ai t bul, "hazel(ʔ)", burden-basket. 135-6.

qōt' yō 'ûts, "knee shoots," blue-bird. 122-9.

ADJECTIVES AND VERBS USED AS NOUNS¹⁷

yîl kai, morning, days. 82-10; 105-14.

yis t'ôt, fog. 126-2. (Pl. 18, fig. 15.)

Cf. yî gûn t'ôt, it is foggy. 121-10.

yis kan, day. (Pl. 18, fig. 14.)

¹⁷ III, 21. A number of the words here listed have the form of verbs, but their meaning is uncertain.

- Le döñ^c, salt. Stem -don, to be bitter. 85-3.
 L tag, black oaks. 89-17. (Pl. 16, fig. 12.)
 L teñe, dust. 165-1.
 nal teñl, white thorn. 91-14. (Pl. 16, fig. 10.)
 nal cõt, grass-snakes. 124-11. (Pl. 10, fig. 8.)
 nal tön^cts, kangaroo-rats. Stem -tön, to jump. 73-10.
 na nin 'ai^c k'wüt, "it has horizontal position on," dam on. 168-9.
 na dil^c, "they hang," sugar-pines. 86-17. (Pl. 1, fig. 8; pl. 19, fig. 1.)
 na gai, "it travels," moon. 81-4.
 na^c gi, "it is carried," or "it carries," quiver. 147-1.
 nõ le, deeps(?). Certain mythical places in the ocean. 125-16.
 sak tõe, springs. Stem -tõe, water. 88-4.
 sē lin, blood. Stem -lin, to flow. 144-6.
 sel te'oi, herons. 72-4. (Pl. 17, fig. 3.)
 sel kūt, magnesite beads. 176-13.
 sel k'ūt dī, kingfishers. 92-17.
 s daite, "it sits small," cottontail rabbit. 155-12. (Pl. 18, fig. 13.)
 ba na t'ai, "main one it stands vertical," post. 130-17. (Pl. 19, fig. 3.)
 del kñets, fawn. 108-9. (Pl. 19, fig. 5.)
 dāl nīk, whistles. Root -nī "to speak, to make a noise." 165-7.
 dāl teik, yellow pine. Stem -teik, red. 86-13.
 ta^c tsit, low tide. 123-15.
 te lañ, whale. 83-15.
 te kūs le^c, kelp. 85-10.
 t yīts, sea-lion. 83-11.
 t kac teõ, pelicans. 72-13. (Pl. 15, fig. 3.)
 t bāl, burden basket. 179-11. (Pl. 19, fig. 4.)
 t kō icts, chestnuts. 89-8. (Pl. 15, fig. 2.)
 t k'an, ridge. Stem -k'an, to be on edge. 99-3. (Pl. 9, fig. 8.)
 ts'ūs nõ^c, "they are vertical," mountains. 71-2. (Pl. 19, fig. 6.)
 ts' käl dññ, he had walked place. 116-13.
 te'e nal dñl, comb. 172-15.
 te'e nes, thunder. 77-12.
 te'e k'as, brush fence. 115-16.
 te' wõe, foam. 121-16. (Pl. 19, fig. 11.)
 te' ga, basket pan. 113-10. (Pl. 19, fig. 10.)
 te ga ts'e^c, twine (rolled on the thigh). 116-10. (Pl. 19, fig. 8.)
 gun da nit, spring was. 121-13.
 kal dac, "it comes up(?)," morning star. 101-13.
 kwī yañ, old men. Stem -yañ, to grow, to pass through life. 105-1.
 kwūn tñc ka ta, shallow places. 75-2.
 kwūn tel, valley. Stem -tel, to be wide, or flat. 91-14. (Pl. 19, fig. 12.)
 k'it da ye, flowers. 78-6.
 k'ūs tel, flat way. Stem -tel, to be wide, or flat. 181-3.

VERBS WITH INSTRUMENTAL PREFIX USED AS NOUNS.

- bâl sâl tēi, seed-beater. 113-11.
 bâl tē qōt, net rope. 117-14.
 bâl gûl gûs, fire-sticks. 110-11. (Pl. 19, fig. 2.)

POLYSYLLABIC NOUNS UNANALYZED¹⁸

- a dīts, grasshoppers. 94-8.
 in tee°, deer. 71-4.
 ɪ dā kī, (a kind of rope). 114-1.
 ɪ dākʷ, Wailaki. 172-8. (Pl. 17, fig. 1.)
 ō 'est', pestle. 113-9.
 ân tēân, peppernuts. 94-7.
 yai in tafi°, mole. 96-6. (Pl. 20, fig. 3.)
 wa tē'āfi, hole through. 78-9. (Pl. 16, fig. 8.)
 la ce°, buckeyes. 94-6. (Pl. 1, fig. 2.)
 nal gi, dog. 91-9. (Pl. 2, fig. 3; pl. 16, fig. 11.)
 na nec, people. 71-7. (Pl. 16, fig. 13.)
 na° eō k'a, robin. 72-9. (Pl. 17, fig. 2.)
 na tēûl, orphan. 102-6. (Pl. 10, fig. 5.)
 na tē'aite, swallows. 73-1.
 na kōfi, clover. 152-5.
 nōfi k tēûfi, tar-weeds. 94-4. (Pl. 16, fig. 15.)
 nûn tē'ût, strings. 117-13.
 nûn ka dûfi, men. 165-13.
 sa tēûfi, tan-oaks. 88-9.
 sâl sûnte, chipmunks. 73-8.
 sîn Lants, a star or constellation. 99-8.
 sâl gits, lizard. 97-4.
 ca' na°, creek. 79-3. (Pl. 4, fig. 6; pl. 17, fig. 4.)
 ban yō, turtle-doves. 92-16.
 ban sîts, sandpipers. 73-2.
 ban tō°, ocean. 86-10. (Pl. 17, fig. 5.)
 ban tēō, mussels. 84-13. (Pl. 17, fig. 8.)
 be lifi, eels. 90-15. (Pl. 17, fig. 7.)
 bel get, spear head. 133-8. (Pl. 17, fig. 10.)
 bel kats, fish-spear. 128-12. (Pl. 17, fig. 11.)
 be nic, prongs. 170-5.
 bûs bûnte, barking-owls. 92-8. (Pl. 17, fig. 9.)
 bûste lô, owls. 72-2. (Pl. 17, fig. 12.)
 bûte k'ai°, seagulls. 72-12. (Pl. 15, fig. 16.)
 das tēafi, gopher. 122-6.
 da tait, grey squirrels. 73-6.
 da tēafi°, ravena. 72-2.
 da tēal, storage bin. 138-2.
 dō fi, bears. 71-6.

¹⁸ III, 16.

dól lants, salamanders. 84-4.
 dún dai, arrowheads. 111-4.
 ta ka tee, crawfish. 91-2.
 te le^c, sack. 113-7. (Pl. 18, fig. 1.)
 tún nī, roads.^{13a} 78-4. (Pl. 17, fig. 13.)
 tún núe, manzanita berries. 94-5.
 tsús na, yellow-jackets. 91-7.
 tcaL nī, varied robins(?). 72-4.
 tei lil, screech-owl. 92-8.
 tei lē k'e, alime. 161-12.
 tein núñ^c, stuffed deer heads. 177-10.
 tei tcafi, white oak. 131-11.
 teō baq, poison. 163-7. (Pl. 18, fig. 6.)
 teún nūL teúnte, Lewis's woodpecker. 72-8. (Pl. 19, fig. 13.)
 teún te' baq, woodpeckers. 72-11. (Pl. 18, 4.)
 teún te' gī teō, pileated woodpecker. 72-8.
 te'a la, sunflower seed. 138-6. (Pl. 18, fig. 2.)
 te'a hāl, frog. 112-11. (Pl. 18, fig. 3.)
 te'i be teifi, fir. 86-8.
 te'ō la kī, meadow-larks. 72-10.
 te'ún t yac, condors. 72-7.
 te'ún t'afī, acorns. 88-15.
 te'ús sai^c, chicken-hawks. 72-3.
 te'ústa, mill-basket. 113-9.
 te'ū be, firs. 90-1.
 te' la kī, sapsuckers. 73-11.
 te' lē linte, humming-bird. 102-12.
 te' nal dūñ, adolescent girl. 175-10. (Pl. 19, fig. 7.)
 te' si teún, coyote. 72-1. (Pl. 18, fig. 9.)
 te' kak', net. 84-8. (Pl. 18, fig. 5.)
 t'e kī, girls. 111-2. (Pl. 17, fig. 15.)
 gō ya nī^c, stars. 74-7. (Pl. 18, fig. 7.)
 kqac kits, old man. 108-2. (Pl. 18, fig. 8.)
 ke bāl, knife. 78-11.
 kī tsa^c, basket-pot. 113-8.
 kwī yint, pigeon. 73-12. (Pl. 18, fig. 10.)
 k'il lek, boy. 119-7.
 k'ún ta gits, jack-rabbits. 73-6. (Pl. 18, fig. 11.)

PRONOUNS^{13b}

PERSONAL

The personal pronouns seem originally to have been confined to the first and second persons, although it is not easy to explain

^{13a} Cf. Hupa tin, road, III, p. 13.

^{13b} III, 29.

all the third persons as demonstratives. There is a simple form, nominative or accusative; and an emphatic possessive, a dative, and an ablative of accompaniment, apparently formed by suffixes.

First Person Singular

cī, I. 78-14. (Pl. 39, fig. 9; pl. 42, fig. 1.)
 cī ye^e, mine. 141-6. (Pl. 22, fig. 2.)
 ea, for me. 103-9. (Pl. 22, fig. 1.)
 cāL, with me. 137-2.

First Person Plural

ne hiñ, we. (Pl. 5, fig. 8.)
 n hī ye^e, ours.
 n hūL, with us. 125-2.

Second Person Singular

niñ, you. 79-7.
 nī ye^e, yours. 117-1.
 na, for you. 152-6.
 nūL, with you. 131-6.

Second Person Plural

nō hiñ, you. 114-11. (Pl. 28, fig. 13; pl. 31, fig. 11.)
 nō hī ye^e, yours.

Third Person

bī ye^e, their, hers. 85-4; 88-5.
 ba, for it. 113-12; 149-12.
 bāL, with it. 85-5.
 kīn, himself. 88-7.
 kin yī, himself. 149-13.
 kiñ ha^e, him (only). 130-3.
 kī ye^e, his. 91-9.
 kwa^e, for him. 110-9.
 kwūL, with him. 91-9.

PERSONAL DEMONSTRATIVES¹⁹

hūñ, he, him.^{19a} 174-1; 123-16.
 hūL, with him. 94-13.
 yōñ, that fellow. 167-9.

¹⁹ III, 31-33.

^{19a} It appears that a suffix ñ renders a demonstrative personal in its application. This also appears in Hupa adjective pronouns and numerals.

DEMONSTRATIVES

hi, the (practically an article). 99-6.

hai ye, that. 128-12.

ha yi, those, that one. 171-19. (Pl. 21, fig. 15; pl. 45, fig. 1.)

Cf. the personal demonstratives hûñ and hûl above.

di, this. 74-9. (Pl. 24, fig. 15.)

yi, right here. (Pl. 21, fig. 6.)

yi bañ, the other side. 133-4. (Pl. 21, fig. 8.)

The more remote has the vowel *ō* or *ū* with the same initial.

yū i, over there. 100-4.

yō i, yonder. 100-7.

yō ye, there it is. 182-3.

yō ōñ, over there. 127-14. (Pl. 21, fig. 7.)

yō ōñ ha', yonder. 75-3.

yō yi de', far north. 77-1. (Pl. 21, fig. 5.)

yōk', way. 104-9.

Cf. yōñ, that fellow. 167-9.

INTERROGATIVE AND INDEFINITE PRONOUNS²⁰

These words are usually interrelated in form. There are four initial syllables: *da-*, relating to conditions; *dan-*, used of persons; *dī-*, employed with things and non-human persons; *ta-*, which is used of both time and place. With each of these there are found three suffixes: *-dji* (*-gi*), the simple interrogative, asking which one of several; *-ca*, *-cañ* (*-ca* plus *ñ*) with an implication of wonder in the question; and *cō'*, used in affirmations concerning anything unusual or mysterious.

da t ya tei, why. 129-10.

dan dji, who. 120-15.

dī dji, what. 97-14.

ta dji, when, 102-12.

ta dji, where. 182-3. Pl. 10, fig. 7; pl. 22, fig. 7.)

10, fig. 7; pl. 22, fig. 7.)

da t ya cañ, what is the matter. 114-7.

dan cañ ha', who. 144-4.

dī cañ, what. 79-2.

ta cañ, where. 78-7.

da t ya cō kwûc, something is wrong. 114-13.

dan cō kwûc, stranger. 119-8.

dī cō', something. 99-15.

ta cō kwûc, somewhere I guess. 119-1.

tac cō', sometime. 135-13.

²⁰ III, 32.

The following are also of interest:

- da t'in cō, very bad. 122-12.
 da ti ca nūfi, what will be. 85-6.
 dac t ya cō de°, if anything is wrong. 166-10.
 dæc tin dji, why does it do that? 130-14.
 dạn te cō°, something. 167-3.
 dạn te ca mūfi, how will it be? 78-13.
 dạn te cō kwûc cû, something wrong I guess because. 115-4.
 dạn te gi, how. 139-11.
 da ya° t'ifi ge, what did they do? 166-4.
 da ya° n dji, what they say. 153-14.
 dạn Lạfi gi, how many. 166-12.
 dan ca ūfi, who is it? 170-12.
 da nī cafi, who is he? 97-4.
 da hin tci, what you say. 176-10.
 dĩ kwôn dĩ, what kind. 80-4.
 dōn kê hit', nothing too bad. 128-1.
 dō dan cō°, nobody. 99-4.
 t'a din cō° kwûc, for some reason. 136-8.

ADJECTIVES²¹

Qualifying adjectives are conjugated after the manner of verbs. The stems of such adjectives are listed with the verbal stems. Many adjectives are listed under nouns with which they form compounds.

PRONOMINAL ADJECTIVES

In addition to the strictly pronominal adjectives such as *La°*, another, certain similar ones which are not conjugated are included.

- ō wūfi, some. 122-14.
 wan t'a°, some. 91-10.
 wūn, some. 95-6.
La°, another, other. 76-3; 79-5.
La mūfi, will be many. 78-6.
La ne, much. 120-15.
Lan hit, much. 137-7.
Lan dūfi, many. 138-8.
Lan tē le, will be many. 173-7.
Le ne° ha°, people. 83-4. (Pl. 21, fig. 10; pl. 37, fig. 13.)
L ta, every way. 129-4.
L ta° ki, kind. 83-1. (Pl. 21, fig. 11.)

²¹ III, 33.

sōste, slender. 123-16.
 swōl̥te, small. 116-9.
 han d̥at ta', last one. 90-17.
 teō yī, another. 118-2.
 teō yī ha', again. 80-2.
 teō yī ta', other places. 149-9.
 t'e', raw. 109-11. (Pl. 11, fig. 4.)
 kwūn l̥an, every. 82-9.
 kwūn l̥aŋ, many. 114-12.
 kwūn l̥aŋ ha', every one. 130-7.

NUMERALS²²

The Athapascan numerals are generally decimal in their arrangement. Kato follow a quinary system as far as ten. This undoubtedly is connected with the practice of counting the fingers, six being "one on the other side." The Yuki and Pomo neighbors of the Kato make use of octonary and quinary systems, respectively. Four n̥ak ka' n̥ak ka', two-two, has displaced diŋ kūt which prevails in the other Athapascan dialects nearby.

CARDINALS

la ha', one. 82-5.
 n̥ak ka', two. 178-4.
 tak', three. 178-5. (Pl. 20, fig. 10.)
 n̥ak ka' n̥ak ka', four. 108-3.
 la' sa nī, five. 165-17.
 yī ban la' ha', six only. 140-9.
 yī ban n̥ak ka', seven. 166-1. (Pl. 20, fig. 13.)
 yī ban tak', eight. 103-9.
 yī ban n̥ak ka' n̥ak ka', nine.
 la' l̥ ba' ūn, ten. 102-14.
 la' l̥ ba' ūn bīl la' ha', ten with one.
 na dūn la' l̥ ba' ūŋ, twenty. 178-8.
 ta dūn, thirty.

MULTIPLICATIVES

tak' dūŋ, three times. 165-11.

DISTRIBUTIVES

la ha' ta, one at a time. 165-15.
 n̥ak ka' ta ha, two in a place. 108-2.
 tak' ta, three at a time. 165-16.

²² III, 32.

DIRECTIONAL WORDS²³

These directional words are closely connected with nouns in their meaning, the second syllable usually being a monosyllabic name of some direction or cardinal point. They differ from nouns in requiring a demonstrative prefix and in their use, which is usually adverbial.

-nûk', to the south, perhaps "up-stream" was its original meaning.

yô yî nûk', way south. 75-9. (Pl. 20, fig. 14.)

hî nûk', south. 139-13.

hai nûk', here south. 150-14.

hai nûk' k'a', way south, south along. 86-15; 107-16.

đi nûk', south. 75-6. (Pl. 20, fig. 15.)

-na ûñ, from the south.

yî na ûñ, from the south. 107-9.

hai na ûñ, from south. 148-9.

-se', to the west, down hill.

yô yî se', far west. 126-6.

hai se', down hill. 106-3.

đi se', west, down here. 77-11; 142-8.

-siñ ûñ, from the west.

hai siñ ûñ, from the west. 78-10.

đi siñ ûñ, in the west. 80-11.

-de', to the north, perhaps originally "down-stream."

yô yî de', far north. 77-1.

hî de', north. 77-1.

hai de' te'ûñ', north toward. 115-7.

đi de', north. 76-12.

-da' ûñ, from the north.

yî da' ûñ, from the north. 75-3.

hai da' ûñ, from the north. 78-8.

đi da' ûñ, from the north. 74-10.

-dûk', to the east, uphill.

yî dûk', up hill. 180-3.

yôk wi t'ûkw, far above. 77-3.

hai dûk', up. 99-2.

đi dûk', east. 75-4.

²³ III, 328-330.

-da ũñ, from the east, down hill.

hai da ũñ, down hill. 180-5.

đi da ũñ, from the east. 101-9.

-bañ, the opposite side, particularly of streams.

yí bañ, other side. 133-4. (Pl. 21, fig. 8.)

hai bañ, after that. 111-4.

đi bañ, to other side. 105-1.

Cf. L ba^c ũñ, both sides. 144-10. (Pl. 21, fig. 9.)

ADVERBS²⁴

Adverbs are mostly either monosyllables having adverbial meaning, like k'ũñ, recently, or such elements with demonstrative and negative prefixes.

PLACE

i niñ, in a corner. 132-12.

yók wi t'ũkw, far above. 77-3.

yók k'ũñ, way off. 107-5.

ne se k'a, the long way. 140-17.

ne se, is far. 167-2.

ne s dũñ, far. 75-6.

ne s dũñ ð, it is far. 140-17.

ne s dũñ ha^c, far away. 86-14.

nũn kwi ye, underground. 75-8. (Pl. 21, fig. 12.)

hakw, right here. 160-1.

ha kwąn, up there. 182-9.

da^c, up. 99-15.

de k'a, here. 79-2.

đi ũn, up there. 109-10.

djañ ha^c, here. 97-9.

t ga ma, along shore. 77-1.

t ga mats, by the shore. 155-1.

kũn dũn ne, close. 104-13.

kũn dũnte, nearby. 79-6. (Pl. 22, fig. 12.)

kwũn nũn ũñ, up this way. 85-8.

TIME

han dũt, next time. 136-4.

ha gi, long time. 134-3.

ha ge^c dũñ^c, long time. 106-17.

ha ge kwũc, long time probably. 139-1.

hakw dũñ^c, then. 71-2. (Pl. 5, fig. 7.)

hõ ta, then. 84-10.

²⁴ III, 328-338.

dañ^c, already, long ago. 78-14; 121-13.
 da sits, soon. 136-5. (Pl. 22, fig. 6.)
 dō k'ññ, already, not recently. 136-7; 175-1.
 dō k'ññ ha^c, long ago. 155-15.
 t'ññ dññ ha^c, all the time. 113-1.
 gññ t'ō, now. 81-2.
 kac bi^c, tomorrow. 104-9. (Pl. 22, fig. 10.)
 kw t nññ, next time. 166-9.
 k'ññ, just now. 103-8.
 k'ññ nññ, before. 97-14.
 k'ññ dññ, before. 137-5. (Pl. 22, fig. 11.)
 k'ññ dññ, yesterday. 128-7. (Pl. 22, fig. 13.)
 k'an cañ, this time. 167-8.
 k'at de^c, soon. 96-4. (Pl. 22, fig. 14.)

MANNER AND DEGREE

la kwa, just, only. 155-9; 164-11.
 la kit, for nothing. 166-9.
 la kwit, anyway. 133-14.
 nññ (ni iññ), slowly. 100-13; 140-16. (Pl. 21, fig. 13.)
 sa'dññ, alone. 120-16.
 sa'dññ ha^c, alone. 87-7.
 sa'dññ k'wa, alone. 172-3.
 sññ, little way. 161-5.
 st'ō^c, nearly. 123-8.
 cañ, only. 78-6.
 ca nñ, only. 71-2.
 cō, too much. 82-10.
 cō^c, in vain. 130-9.
 cō n cññ, very well. 109-4.
 cññ kē, well. 166-5.
 cññ k', well. 71-1. (Pl. 22, fig. 3.)
 cññ kwa, well. 181-13.
 cō^ct, in vain. 159-12.
 kakw, fast. 93-12.

POSTPOSITIONS²⁵

The following elements when suffixed to nouns or pronouns make prepositional phrases.^{25a}

-ye, under.

ō ye^c, under. 101-6. (Pl. 21, fig. 2.)

ō ye ta', under places. 180-1.

²⁵ III, 339-343.

^{25a} Cf. also the Locative Suffixes of Nouns, p. 24.

-wakw, to one side of.

wakw, to one side. 97-4. (Pl. 11, fig. 1.)

nō'wa ka, about yourselves. 173-2.

nō wakw, away from us. 173-5.

-lai', top, end, on top of.

ū lai', its top. 103-13. (Pl. 21, fig. 3.)

-L, with.

bûL, with it. 85-5.

kûL, with him. 91-9.

-na, around, encircling.

ō na, around it. 77-2.

-na tag ha', without the knowledge of.

kw na tag ha', without his knowledge. (Pl. 8, fig. 9.)

ū na tag ha', not knowing. 156-9.

nō na tag ha', without our knowledge. 129-15.

kûc na tag ha', without their knowledge. 155-8.

-nītc, midway of.

ō nītc, half-way. 122-15.

ō nī tcûtc, its middle. 162-14.

-nō', behind.

ū nō', behind it. 103-2.

-nē dûñ, base of.

kin nē dûñ, its base. 182-10.

-bī', in. (The element may be -ī', b being the pronoun.)

bī', in it. 97-13. (Pl. 6, fig. 7.)

dī bī', this in. 90-16.

-dai', outside of.

ō dai', outside. 98-4. (Pl. 21, fig. 4.)

-dûk', up, on top.

kw dûk', top. 127-9.

-ta', among.

bī ta', among. 107-14.

dī ta', this place. 157-5.

-tûs, over, beyond.

ō tûs, beyond it. 77-12.

kw tûs, over him. 156-14.

-tûk gûtc, between

ō tûk gûtc, between. 160-9.

- te'ûñ^e, to, toward.
 a te'ûñ^e, to himself. 87-7.
 ô te'ûñ^e, to him. 79-9. (Pl. 3, fig. 4.)
 û te'ûñ^e, close by. 156-10.
 nō te'ûñ^e, to you. 97-7.
 L te'ûñ^e, together, toward each other. 104-1.
 kw ts'ûñ^e, to him. 174-2.
- te'ûñ a, before, in front of.
 û te'ûñ a, before it. 153-3; 77-7.
- t'ûkw, above, beyond.
 ô t'ûkw, above, way back. 77-3; 104-11.
- t gûñ, around, behind.²⁶
 a te gûñ, around yourselves. 169-4.
- kwa^e, for.
 kw kwa^e, for him. 119-1.
 nō kwa, for us. 181-7.
- ke^e, behind.
 ske^e, after me. 97-10.
 ske^e ha^e, behind me. 141-8.
- k'e, back, in the opposite direction.
 at k'e, back of himself. 86-17.
- k'wût', on (perhaps combined with a demonstrative).
 k'wût', on it. 75-6.

PARTICLES AND INTERJECTIONS²⁷

- aL te, come on, well. 98-6; 125-7.
 a bi, stop. 100-1.
 ē he, that is so. 173-14. (Pl. 21, fig. 1.)
 û wē, O yes. 100-10.
 ûñ, it was. 182-9.
 L^eûñ, so it is. 100-3.
 na 'a^e, here. 97-13.
 nī i, say. 164-9.
 nī ic, say. 100-3.
 nō dō^e, nō' dō, go ahead, come. 103-7; 115-7.
 he ũ^e, yes. 82-2. (Pl. 21, fig. 14; pl. 33, fig. 9.)
 dō, no, not. 79-4; 100-10. (Pl. 7, fig. 1; pl. 22, fig. 8.)
 te he he i, (laughing). 147-5.
 tea^e, listen. 182-15.
 ka^e, well. 76-12.

²⁶ Cf. prefix t gûn in t gûn nas t gets, he looked back. 132-2.

²⁷ III, 343.

VERBS

In Kato, as in other Athapascan dialects, the verbs are usually complete in their meaning and are really sentences. The adverbial concepts of place and direction are expressed by prefixes standing first in order. The object and subject pronouns precede the verbal stem in the order named. The relation of time in regard to inception, duration, repetition, completion, etc., is also expressed by prefixes, all of which precede the subject. Standing between the subject and the stem are modal prefixes which control to some extent the voices of the verb.

The stems themselves often vary in the quality of the vowel and in the final consonants in a manner analogous to accent. These varying forms occur in different tenses. Many of the stems indicate the character and shape as well as the number of the object or subject. Some stems are identical with monosyllabic nouns. The act itself in these instances seems not to be named, but is understood or inheres in the entire verb without an especial element for its expression.

The suffixes for the most part are subordinating, expressing the time relations, conditions, and the source of information. Not only is the material (prefixes, stems, and suffixes) from which the verbs are made identical, except for regular phonetic changes, with that employed in Hupa, but many of the complete verbs are similar.

PREFIXES

First Position

a-. Certain verbs of a sort usually requiring a double object have this prefix when the direct object does not immediately precede. These verbs express the doing, saying, and thinking of special things.²⁸ This prefix forms an independent syllable except when followed by c, the first person singular.

- a ya cí lae, took me up. 158-14.
- a ne, she said. 152-8.
- a nǒ' t'e, you are. 139-1.
- a dǒc yi, I boast. 128-1.
- a kwúe la ge, I fixed him. 182-14.
- ac t'e ye, I am. (Pl. 40, fig. 7.)

²⁸ III, 90.

Adverbial

ya^a. Used of motion or position upward or into the air.^{28a} The duration is .12 seconds. There is syllabic union with the third modal prefixes *l* and *n*, perhaps also with *c*, first person singular. A form *yai-* appears the probable result of accentuation.

- ya* 'ac, he put up. 99-10.
yal dac bûñ, you must jump up. 82-16.
yañ 'ai', it stood. 156-15.
ya kwôl t'a, make him fly. 182-16.
ya 'gûl gal, he threw up. 142-3. (Pl. 23, fig. 1.)
nô gûl gal, he threw down. 92-5.

ye', yī'. Used of motion into a house or other partly enclosed space.²⁹ The form *yī'* appears to be the result of accent. Duration of *ye'* is .25, of *yī'* .18. Syllabic union with following sounds seems never to take place.

- ye* nat ya, he went in. 177-13.
ye hen yac, come in. 141-9.
ye te' gûn yai, she went in. 132-13. (Pl. 10, fig. 9; pl. 23, fig. 2.)
yī he dûl, you go in. 97-10; 153-2.
ye gi nai', they went in. 107-17.
te'e nī nai, came out. 164-9.

wai- or wa. Used of position over, at one side of, or near.³⁰ Duration .12.

- wa* in yai, he went around. 97-3.
wai te' gûn get, he struck over. 164-2.
wa 'ûñ kañ, he placed before him. 129-4. (Pl. 23, fig. 3.)

wa-. Used of motion through an opening or small space.³¹ The duration of the syllable is about .27 seconds.

- wa* ûñ fiñ, she carried through. 180-2.
wa nûn tei bûñ, shall be wind. 80-14. (Pl. 23, fig. 4.)

Le-. Used of the position near or movement toward each other of two or more objects.³² The duration of the vowel is about .15.

- Lel* yîts, he tied together. 174-15. (Pl. 43, fig. 11.)
Le ges 'a', encircled. 82-15. (Pl. 23, fig. 5.)
Leñ 'a', (water) met. 83-6.

^{28a} III, 39.

²⁹ III, 41.

³⁰ Compare the Hupa second *wa-*, III, 44.

³¹ III, 44.

³² III, 44.

Lûn- Used with verbs meaning to assemble. It is perhaps related to the last.³³

Lûn tes ya hût, they came together when. 148-9. (Pl. 29, fig. 4.)

na- Used of indefinite movements over the surface of land or water.³⁴ The ordinary duration for the vowel is .13, but *na ca* and *naga* have .19-.25. There seems to be contraction with *o'*, the second person plural prefix, and syllabic union with *a*, second modal.

na ca', I will go about. 133-6. (Pl. 23, fig. 7; pl. 35, fig. 10.)

na ga kwañ, he had walked. 154-12. (Pl. 42, fig. 6.)

na' be, swim (dual imp.) 111-2. (Pl. 36, fig. 9.)

na' ke', swim (plural imp.). 172-14. (Pl. 45, fig. 2.)

na wô' nic, you played about. 134-17. (Pl. 8, fig. 5.)

nas 'ûts, he ran about. 134-3. (Pl. 29, fig. 1.)

nas lât, he burned around. 79-3.

nai-, na- Used of horizontal position or motion as across a stream.³⁵ The duration of *nai-* is .31, of *na-* .16.

nai 'ai būñ, it will be across, it will have waves. 85-8. (Pl. 23, fig. 8.)

na nic ge', I will carry you across. 141-4.

na nûñ 'ai, fish-weir, "it is across." 133-9. (Pl. 28, fig. 3.)

na nûn lat, jump across. (Pl. 34, fig. 3.)

na nûn yai, she started across. 154-2.

nai d-, nai t-, na d-, or na t- Used of position or motion at right angles to a horizontal line or surface.³⁶ The second syllable begins with *d* if a vowel follows, with *t'* if the following vowel is preceded by a glottal stop, and consists of *t* if followed by a consonant. The duration of the vowel is about .17, varying from .16 to .19.

nai t gûl 'a', he stood up a stick. 116-6.

na dôl 'a' būñ, let it stand on end. 108-3.

na t gûl 'a', he stood it up. 76-6. (Pl. 28, fig. 2.)

na t gûl 'a_l, he stood them up along. 88-13. (Pl. 26, fig. 8.)

na t'a' bûn dja', will stand up. 91-17.

na na- Denoting a movement downward.³⁷ The duration of the vowel in the first syllable is about normal (.16), that of the

³³ Compare Hupa *Linyate*, they come together. I, 295-1.

³⁴ III, 48.

³⁵ III, 49.

³⁶ III, 51.

³⁷ III, 51.

second syllable shorter, about .12, and probably followed by a glottal catch.

- na na il dūL, he moved it up and down. 150-1.
 na na gūL liñ, it runs down. 121-14.
 na na gūL dac, he jumped down. 146-3.
 na na gūñ giñ, he took them down. 145-17.
 na na gūt yai, he came down. 129-11.
 na nūn dac, come down. (Pl. 23, fig. 6.)

nō-. Used of being in or coming to a position of rest on the ground, and also of reaching other limits of motion.³⁸ The average duration of the vowel is .16, varying from .14 to .19. When followed by c, first person singular, n, second modal in first person plural, or one of the third modals, it is joined with them in one syllable.

- nō 'ac, put it (imp. plu.). 110-11. (Pl. 28, fig. 7.)
 nō nañ ət, he untied half way. 122-15. (Pl. 44, fig. 6.)
 nō na nī kats, I fell back. 182-16. (Pl. 44, fig. 11.)
 nō nūn yiñ, they lived. 160-12. (Pl. 29, fig. 12.)
 nō cūL gal, throw me. 133-4. (Pl. 25, fig. 1.)
 nō ga 'ac, he put down. 86-11. (Pl. 23, fig. 11.)
 nō tē'ūn tō', water reached (a certain point). 75-1. (Pl. 7, fig. 6.)
 nōc ge', I carried. 182-1.
 nōn da 'añ, we put down. 172-2.
 nōl k'as, they fell. 152-2.
 nōl tiñ, he laid him down. 80-6.
 nō' ſi 'an, he placed. 76-3.

nūn-. Seems to be used of pressure or impact against a surface. The vowel is short as is usual in closed syllables; from .06 to .1.

- nūn ic gal, let me chop. (Pl. 42, fig. 7.)
 nūn ūn dūk k'e', get up. 100-3. (Pl. 44, fig. 8.)
 nūn yiL t'o gūt, she stung when. 156-15. (Pl. 26, fig. 3.)
 nūn yiL tsūL, (ocean) beats against it. 86-12. (Pl. 41, fig. 2.)
 nūn neL k'ai, he made stick in. 156-14. (Pl. 45, fig. 9.)
 nūn sūL gal, you beat. 129-10. (Pl. 42, fig. 8.)
 nūn s'ūs dūk k'e', he got up. 98-5. (Pl. 23, fig. 10.)
 nūn s'ūs tiñ, she took him up. 179-14. (Pl. 39, fig. 7.)

be-. Used of motion along a vertical or steep surface, as a tree or hillside.³⁹ The duration of the vowel is .2. It unites with weak prefixes when they directly follow.

³⁸ III, 53.

³⁹ Compare me- III, 46.

bes ya hût, he climbed up when. 143-9.
 bes giñ, he carried it up. 98-16.
 be cõ'lõs, lead me up (imp. plu.). 147-6. (Pl. 6, fig. 1.)
 bẽ dûl, let us climb. (Pl. 23, fig. 13.)
 da bes ya', he climbed up. 180-6. (Pl. 6, fig. 4.)
 bent'a tẽ le, you will fly up. 182-11.
 bec na', I roast it (I lean it against[?]). 168-16.

This prefix seems to be used also in a figurative sense, at least in one less definite in its meaning.

beL ke', it is finished. 172-12.
 be nĩL ke' e, I have finished. 78-14.
 be dûl 'ai', let us try it. 109-6.
 be gũn t'eg, he taught. 122-11.
 bes ya hût, he climbed up when. 143-9.
 tes ya hût, he went because. 118-3.

da-. Relating to a position higher than the ground.⁴⁰ The vowel with considerable aspiration is about .18 in duration.

da ûn dic ge', I take you up. 141-4. (Pl. 7, fig. 3.)
 da nõ la, she put it up. 181-5.
 da bes ya', he climbed on. 180-6. (Pl. 6, fig. 4; pl. 23, fig. 14.)
 da nõ la, she put it up. 181-5.
 nõ la, he put it. 79-13.

de d-, (t-). Used of motion into or position in a fire.⁴¹ The duration of the vowel is about .2.

de ðic tañ, I will put in fire. 110-3. (Pl. 39, fig. 2.)
 de dũñ 'ac bũñ, you may put in fire. 127-12. (Pl. 23, fig. 15.)
 de t gũn 'añ, he put in fire. 157-13. (Pl. 7, fig. 2.)
 ye te' gũn 'añ kwãn, he had put in. 115-14.

dje-. Used of the splitting or separating a mass into two, perhaps more parts.⁴² The duration is .12.

dje' gũL tal', he kicked open. 81-15.
 dje' gũl teel, he split open. 129-3. (Pl. 24, fig. 5.)
 dje' gũn t'ats, he divided. 80-3.

tai-, ta-. Used relating to water or other fluids.⁴³ The usual duration is from .15 to .18, but coming before n or d, it sometimes takes a final n or t and shortens its vowel.

⁴⁰ III, 58.

⁴¹ III, 61.

⁴² III, 61.

⁴³ III, 61.

tai 'ac bûñ, it (water) will settle back. 85-8.

tai nan, drink. 88-6.

ta ya' ô nañ, let them drink. 123-6. (Pl. 33, fig. 5.)

ta nas t ya, he came out of the creek. 175-3.

Cf. tan nas djöl', rolled out of fire. 147-9. (Pl. 41, fig. 3.)

ta te'ô' bûl, prepare (soup). 123-13. (Pl. 24, fig. 1; pl. 37, fig. 6.)

tat dûl sùs, we dragged out. (Pl. 35, fig. 6.)

ta gûl gal, he threw in water. 90-14.

ya gûl gal, he threw up. 142-3.

tai-, ta-. Uncertain, seems only to occur with stem -t'as -t'ats, meaning to butcher.⁴⁴

tais t'ats, he cut up. 144-3.

ta't'as, butcher (imp. plu.). 109-4.

ta gûl t'ats, they cut up. 175-4. (Pl. 24, fig. 2.)

dje' gûn t'ats, he divided. 80-83.

te'-. Relating to water, but usually to motion into or position under water.⁴⁵ The vowel including marked aspiration has a duration of .16.

te'nô dâg ge', we will put in water. 139-9. (Pl. 7, fig. 5; pl. 24, fig. 3.)

te'nôl 'ûts, it ran in water. 174-10.

te'te' gûn tal', he stepped in water. (Pl. 38, fig. 10.)

te'na te'ûl deo, she washed them. (Pl. 38, fig. 3.)

te'nô nî gî ne, I put in water. 140-1.

nô nî gî ne, I put it down. 137-2.

t gûn-. Meaning around, back, behind.

t gûn nais 'an, they turned around. 106-2.

t gûn nas t gets, he looked back. 132-2.

nas t gets, he looked around. 99-5.

ts'ûn-. Meaning away from, in verbs of fleeing.⁴⁶

ts'ûn tel del', they ran off. 165-10; 178-10.

te'e-. Meaning out of, correlative of ye-, into.⁴⁷ The vowel has a duration of about .12. It unites in first person with c and in third person with modals n, l, and L.

te'e nan la, he jumped out. 142-6. (Pl. 34, fig. 4.)

te'e nal 'ac, she takes out. 180-11.

te'e nûn yac, come out. (Pl. 24, fig. 4.)

te'e n tan, he took out. 170-14.

⁴⁴ III, 62.

⁴⁵ III, 63.

⁴⁶ Compare Hupa tsin-, III, 63.

⁴⁷ III, 63.

te'en giñ, he carried out. 98-5.
 te'e kū wúl tin, he was pulled out. 160-6.
 te'el gal, he was thrown out. 102-7.
 te'eL təc bññ, you must carry out. 104-1.
 te'en yai, he went out. 102-9.

ka-. Used of motion up out of the ground or water and also up a hill or the sky.⁴⁸ The average duration is .17, but when the vowel is closed it is about .1.

ka ya' ci', they dug (bulbs). 148-12.
 kał 'ai bññ, it will grow up. (Pl. 26, fig. 9.)
 ka na gúl lē, he came up (out of water). 175-3.
 ka na mīl', they carried it up (the river bank). 175-4.
 ka nac, sun came up. 81-2. (Pl. 24, fig. 7.)
 ka si del', we came up. 141-2. (Pl. 1, fig. 7.)
 ka gúl 'aL kwañ, they had sprung up along. 87-6. (Pl. 27, fig. 7.)
 ka nac bñn dja', shall come up. 99-11.
 k'ē nac bñn dja', it shall go down. 99-12.

kai-, ka- (kwa-). Used with verbs of searching or looking for.⁴⁹ The k is strongly aspirated. The duration of the vowel is normal, .18.

kai n te bññ, (they) must look for. 173-9.
 ka ya' ũn te, they looked for it. 179-6.
 kwa nō' tē, look for it. 164-11. (Pl. 24, fig. 6.)
 ka kw nō' te, look for him. 160-1. (Pl. 39, fig. 1.)

kō, kwūn-. Used of general conditions, as of the weather.⁵⁰ There seem to be two forms: kwūn- is very short, .06, and kō-, .12.

kō wūn yan, it grew. 166-7.
 kō wūn nūñ, it (ground) jarred. 177-14.
 kō wūn sūl, it was hot. (Pl. 1, fig. 5.)
 kō wūn teL, level. 106-6.
 dō kō gīs iñ, one couldn't see. 81-1. (Pl. 24, fig. 13.)
 kwūn tel tē lit, it was becoming flat. 107-3. (Pl. 27, fig. 2.)
 kwūn sat, deep water. 74-10. (Pl. 34, fig. 11.)
 kwūn lañ, it is finished. 77. (Pl. 22, fig. 15.)
 kō wūn sūL, it was hot. 81-2.
 gūn sūL, it became warm. 96-4.

kō-, kwūt-. Meaning down, or down hill.⁵¹

kō te' gāl 'āts, they ran down. 153-9.
 kwūt te' gūn yai kwān, he had come down to. 116-5. (Pl. 24, fig. 9.)

⁴⁸ Compare Hupa xa-, III, 56.

⁴⁹ Compare Hupa xa-, III, 66.

⁵⁰ Hupa xō-, III, 94.

⁵¹ III, 57.

kwûn-. Used with a stem -yôt, the verb as a whole meaning to pursue. The vowel has a duration of .09.

kwûn t gi yôt, they pursued him. 145-14.

kwûn tin yôt, they ran after him. (Pl. 30, fig. 13.)

kwûn ya yôl, they followed. 179-8.

kwa-. Seems to be used with the meaning of "manner like."⁵² The duration varies from .08 to .12. The glottal stop is usually present.

kwa'la, you (plu.) did. 109-4.

kwaL i mûñ, you must do it. 136-2.

kwaL iñ, he did. 129-4.

kwac 'i ne, I always do that. (Pl. 28, fig. 12.)

dî kwa' L siñ, he did this way. 79-12. (Pl. 24, fig. 15.)

cofik' kwa' laq, he did well. Cf. 104-6. (Pl. 22, fig. 3.)

kwûn ye'-. Under the ground or water. The first vowel is short, .06; the second syllable ends in an aspiration which may be identical with ye' on p. 43 above.

kwûn ye i dûl kwûc, underground we will go. 138-10.

kwûn ye dûl tûc tel, we will bury it. 115-8.

kwûn ye gûl lat, it has sunk. 174-12. (Pl. 24, fig. 8.)

kwûn ye hî dûl tû le, we will go (underground). 140-15.

tî dûl tû le, we will go. 136-5.

k'e-. Of severing as in biting and cutting.⁵³

k'e te' ûs t'ats, he cut. 146-11.

k'e te' ûn yân kwân, bitten off. 161-7.

k'e tein nac bûñ, you must bite off. 101-7.

k'ê-. Apparently means down, used only of setting of heavenly bodies.

k'ê nac bûn dja', it (sun) shall go down. 99-12.

k'ê nin yac bûñ, you must go down. 101-15.

*Deictic*⁵⁴

The third person of the verb does not have a subjective prefix of the sort and in the position found in the first and second persons, but is marked by the absence of such a prefix. In many cases, however, a prefix with demonstrative force is found.

The singular subject when indefinite or not named in connection with the verb is referred to by *te'*. This follows the

⁵² Hupa xa-, III, 77.

⁵³ III, 85.

⁵⁴ III, 99.

adverbial but precedes the first modal prefixes. Usually it forms or begins a syllable which contains no vowels. A following consonant often seems to close the syllable.

- te'ús qót, he speared it. (Pl. 8, fig. 8.)
 te'ús t'ók', he flaked. 156-7. (Pl. 11, fig. 8.)
 te'n neL yíl', she eats up. 180-9. (Pl. 1, fig. 9.)
 te' nes tíf, he lay down. 175-11. (Pl. 5, fig. 2.)
 te' nún yai, he came there. 142-14. (Pl. 25, fig. 6.)
 te'n ne gúl 'íñ', he looked at it. 156-16. (Pl. 25, fig. 12.)
 te' sún úñ gí, he is standing. (Pl. 26, fig. 2.)
 te't teL bafí, he walked lame. 133-6. (Pl. 24, fig. 14.)
 te't teL búL kwán, he had hung up. 176-3. (Pl. 27, fig. 8.)
 te'qáL ya' ní, she was walking they say. 93-12. (Pl. 2, fig. 5.)
 te'gún yíc, he broke it. 79-12. (Pl. 10, fig. 3.)
 ye te' gún yai, he went in. 97-11. (Pl. 10, fig. 9.)

What seems to be this prefix was often recorded ts'.

- ts'úl san, he saw him. 97-4.
 ts'ús lí', he tied. 145-8.
 ts' síñ, stood. 75-10.

With no apparent distinction in meaning s'- was frequently heard in place of tc', and ts'.

- s'ús yí', he made a house. 168-7. (Pl. 30, fig. 9.)
 s'ús líñ', he became. 84-11. (Pl. 32, fig. 3.)
 s'ús te'afí, he shot it. (Pl. 41, fig. 7.)
 nún s'ús dūk k'e', he got up. 98-5. (Pl. 23, fig. 10.)
 nún s'ús tíf, he picked him up. 179-14. (Pl. 39, fig. 7.)

A subject which is named, or the last mentioned of two or more nouns, is referred to by yí-. This often unites with the third modals.

- ye yí gún 'an, came in. 130-16.
 yíl san, he found. 134-14.
 yíl sūt, (water) broke. 75-3.
 yís t'ats, he cut it. 162-10.
 nún yíl t'ó gút, when he stung. 156-15. (Pl. 26, fig. 3.)
 yí nəl íñ', one man looked. 165-11.
 te'n neL ín', he looked. 88-16.

The plural and the dual when not distinguished by the stem, have ya- in the position occupied by the other deictic prefixes.⁵⁵

- ya'n ya' ní, they said they say. 82-11. (Pl. 4, fig. 4.)
 be ya'L 'ai', they tried it. 85-2. (Pl. 28, fig. 5.)
 ta ya' ó nañ, let them drink. 123-6. (Pl. 33, fig. 5.)
 ka ya' ún te, they looked for it. 179-6.
 ka ún tō, she looked. 114-9.

⁵⁵ III, 99.

The deictic prefixes *te'*-, *yī*-, and *ya*- occur not only referring to the subject but to the object, in which case they are found in all persons of the verb. The Hupa prefix corresponding to *te'*- when used of the object is *k*- or *ky*, giving evidence of separate origins for forms now indistinguishable in Kato.⁵⁵

- te'eL na'*, roast. 109-6.
te'ic t'a tē le, I will make. 156-5. (Pl. 40, fig. 5.)
te'o' yañ, you (plu.) eat. 148-6.
te'o' sūt, pound. 110-5.
te' wō' bāl, carry it (plu.). 110-15. (Pl. 37, fig. 4.)
yis te'añ kwañ, who shot. 141-12.
yī gān yañ, (they) ate it. 113-16.
te' ōñ gī la nē, I went after. 136-10.
tō ōñ gī la ne, water I brought. 137-1.

Objective

The object, except when of the third person and definitely named, is incorporated in the verb, occupying a position between the deictic prefixes and the first modals. These weaker forms of the pronoun are found also as possessive prefixes with nouns; first person singular *c*-, first person dual and plural *nō*-, or *n h*-, second person singular *n*-, second person plural *nō*- or *n h*-, third person singular *kw*-, third person plural *ya kw*.

In the case of verbs of speaking with the stem *-nī*, *-n*, the pronoun is combined with *L*, "with," and precedes the deictic prefixes. The pronoun also precedes the prefix *ga*-, *wa*-, meaning "to," of which it is considered to be the object rather than that of the complete verb.

- cūL sūs e*, (nobody) sees me. 176-1.
c nōL iñ', look at me. 103-9.
c gī yal, I am sleepy. 164-4. (Pl. 29, fig. 7.)
nō' cūL gaL, throw me. 133-4. (Pl. 25, fig. 1.)
be cō' lōs, lead me up. 147-6. (Pl. 6, fig. 1.)
te'e nō' nūñ a ne, he killed us. 117-6. (Pl. 25, fig. 4.)
n he ōL ka kwic, we will pass the night. 105-3. (Pl. 27, fig. 10.)
n hōc t ge', let me see you. 142-6. (Pl. 43, fig. 2.)
ne ō dūñ, you will die. 177-4.
da' n dic ge', I take you up. 141-4. (Pl. 7, fig. 3.)
kw nīL iñ', she looked at him. 134-2. (Pl. 9, fig. 5.)
Cf. cūL te'nī, he asked me. 182-3.
c gaL teōs, give me. 97-13.

⁵⁵ III, 84.

First Modal

ō.—There are a few verbal stems which seem to require this prefix, but it has not been possible to isolate it sufficiently to find its meaning. Its position is after the objective and before the following prefixes.

- ōc lǎf^e, I will get. 137-2. (Pl. 24, fig. 11.)
 ō't gûc, look at them (imp. plu.). 164-9. (Pl. 25, fig. 13.)
 n hōc t ge^e, let me see you. 142-6. (Pl. 43, fig. 2.)
 tē'ō na gûc gûc, he looked back. 87-13. (Pl. 43, fig. 4.)
 tē'ōl yī kwān hûc, he had named when. 117-12.

na-. With an iterative force indicating that the act is repeated or the direction is reversed.⁵⁷

- nas li^e, he tied up. 145-7. (Pl. 32, fig. 6.)
 nas dūl līn nē, we have got back. 95-12. (Pl. 3, fig. 6.)
 nō na nī kats', I fell back. 182-16. (Pl. 44, fig. 11.)
 tē'e nan la, he jumped out. 142-6. (Pl. 34, fig. 4.)
 tē'e na gûc dac, he came out again. 149-13. (Pl. 37, fig. 10.)
 ka na gûl lăc, she digs out. (Pl. 31, fig. 1.)
 nas liñ^e, it became (again). 107-8.
 aliñ^e, it became (first time). 76-9.

t-, te-. With a distributive or progressive force as regards the act itself, its object or subject.⁵⁸ The form te- is found in tenses expressing definite action. In other cases the vowel ū, short and weak, is found, or the vowel is that required by a following prefix.

- tī dūl, let us go. 141-6. (Pl. 38, fig. 2.)
 tūc ge^e, I will carry. 135-4. (Pl. 8, fig. 4.)
 n tō lăc, let him sleep. (Pl. 31, fig. 8.)
 tē' tōl k'as dja^e, let him drop acorns. 129-8. (Pl. 10, fig. 4.)
 tūt bûl, it rains. 74-4. (Pl. 36, fig. 12.)
 te sūl tē'ōl^e, I stole. Cf. 141-15. (Pl. 42, fig. 1.)
 tē't te gûs tēi^e, nearly daylight; the east was reddening. (Pl. 41, fig. 12; pl. 8, fig. 2.)
 tē't te lōs, he led. 175-2. (Pl. 32, fig. 10.)
 dō ha^e tē't tēl kûc, they did not go. 167-17. (Pl. 45, fig. 7.)
 tē't tēl bañ, he walked lame. 133-6. (Pl. 24, fig. 14.)
 n tēl lăc ya^e nī, he went to sleep they say. 83-4. (Pl. 31, fig. 10.)
 tē'tes yai, he went. (Pl. 29, fig. 2.)
 tē't tes de lō, they went on. 108-12. (Pl. 38, fig. 1.)
 tē't tes gīñ, he carried. 101-9. (Pl. 43, fig. 3.)

⁵⁷ III, 67.

⁵⁸ III, 78.

A prefix consisting of d-, the syllable completed by other elements, frequently occurs. No meaning has been discovered. It is, however, required by prefix de-, relating to fire, and na-, to be perpendicular.

- na del tea mûñ, they shall eat. 85-5.
 na deL gal kwān, he had poured in. 125-13. (Pl. 42, fig. 12.)
 na des bîl', he sprinkled. 123-2. (Pl. 23, fig. 9.)
 na de gût tsan, they heard again. 107-6.
 na dîc tea, let me eat. (Pl. 24, fig. 12.)
 na dôL 'a', pile up. 103-11.
 na dôL 'a' bûñ, let stand on end. 108-3.
 de dûñ 'ac, you put on the fire. 131-9. (Pl. 23, fig. 15.)

-he, -h-. A prefix with he- or h- follows ye'-(yî), in, na-, back, and stands by itself. It has not been possible to assign any meaning for it.

- yî he 'ac, take them in. 113-4.
 ye heL a, come in. 143-1.
 yî he dûL, you go in. 97-10.
 ya' hes giñ, they carried it. 129-14.
 nai hes 'añ, they took it back. 107-10.
 na hac gât, I will untie it. 79-1.
 na hes le ge, it swam along. 128-8.
 na he sùn t ya de', if you go back. 137-10.
 na he sîL 'ûts kwāñ, I ran back. 182-6.
 na hûn das, you go back. 120-12.
 hî tes gin, she carried them. 135-7.
 ka hes di iñ', we will look. 173-17.

*Second Modal*⁵⁰

There are a few verbs which have the second modal prefixes throughout, but in the greater number they do not occur in the indefinite present. It is in these few present tenses without other prefixes that the force of these second modals is most clearly seen. It is quite clear in these forms that n- indicates completion, s- progression, and g- inception of the act or state. In the great majority of verbs one of these three prefixes is required in the definite or past tense; in most cases, in fact, it is by the presence of one of these second modals that the definite tense is distinguished from the indefinite. They are regularly used with

⁵⁰ Cf. Hupa w-, III, 95.

certain adverbial prefixes without much regard to their meaning.⁶⁰

These second modals directly precede the subjective prefixes in the first and second persons and the third modals in the third person with which they form syllables. The progressive *s-*, however, may stand alone in the syllable, be joined to the stem, or close a syllable of which a first modal is the initial.

g-, in a few verbs seems clearly to have an inceptive force; in others it seems to occur regularly with certain adverbial prefixes with which its tie seems to be formal rather than logical.

gi dūL, we will go. 96-13.

gūñ eL, you carry. 137-13.

gūc caL, I walk. 163-10.

ya' gūL gal, he threw up. 142-3. (Pl. 23, fig. 1.)

ye'te' gūn yai, he went in. 132-13. (Pl. 23, fig. 2.)

ta gūt t'ats, he butchered. 175-4. (Pl. 24, fig. 2.)

dje' gūL teel, she split open. 129-3. (Pl. 24, fig. 5.)

kwūn ye' gūL lat, it sank. 174-12. (Pl. 24, fig. 8.)

kwūt te' gūn yai, he went down. 116-5. (Pl. 24, fig. 9.)

gūL teat, he shouted. 165-9. (Pl. 25, fig. 10.)

gūn nes, it became long. 87-1. (Pl. 25, fig. 8.)

s-. Verbs employing *s-* are usually of acts or states which continue for some time.

sī da ye, I sit. 140-7.

sī tī ne, I lie. 175-16.

s gin, it was. 138-18.

stān, lay. 176-18.

stīñ, lay. 100-2.

sta, he sits. 123-7.

sūn da, you live. 79-7.

be nē sīL git de, I am becoming afraid. 130-15. (Pl. 6, fig. 2.)

bī' sta, he was sitting in. 132-3. (Pl. 6, fig. 7.)

te'ūs lī', he caught in a noose. 108-4. (Pl. 1, fig. 6.)

te'ūs qōt, he speared it. 128-13. (Pl. 8, fig. 8.)

ka sī del', we came up. 141-2. (Pl. 1, fig. 7.)

⁶⁰ Examples of all three of the second modal prefixes may be seen on v, 138. In line 14, *nī gī ne*, I bring, occurs without a prefix. In the next line it occurs in the same form with the prefix *nō*. In both of these the completion of the act is clear. In line 15 *g* occurs in *dō ha' ge gin*, she did not bring it in. The inceptive force is not particularly clear, but the statement may well mean that she did not begin the carrying. The following line has *s* and the stem without other prefixes, *s gin*, it was, and here the meaning is clearly that of remaining in position with no reference to the beginning or end of the act.

n-. Seems to be exactly parallel in its use with g- above, having however the opposite meaning, completion.⁶¹

- nī ya ye, I came there. 136-17. (Pl. 29, fig. 6.)
 nī gī ne, I bring. 138-14. (Pl. 43, fig. 8.)
 nō' 'ac, you (plu.) put it. 110-11. (Pl. 28, fig. 7.)
 na nūfi 'ai, a fish-weir (it is across). 133-9. (Pl. 28, fig. 3.)
 nō' 'ac, you (plu.) put it. 110-11. (Pl. 28, fig. 4.)
 be nūl ke' e, I have finished. 78-14. (Pl. 23, fig. 12.)
 te'n mōl yōl, let it blow. 80-13. (Pl. 30, fig. 11.)
 te'n nūl kūt, they came. 154-12. (Pl. 45, fig. 6.)
 te' nūn yai, he came there. 142-14. (Pl. 25, fig. 6.)

Subjective

The subjective prefixes are, with some exceptions, those used with nouns and postpositions. They stand between the second and third modal prefixes. In the third person the subject is referred to, if at all, by deictic elements.

The first person singular has two prefixes. In the indefinite tense c- is used. It is evidently connected with cī, the independent pronoun.⁶²

- ūc yīt, I will make a house. (Pl. 30, fig. 8.)
 ūc tēi ee, I cried. 140-6. (Pl. 8, fig. 6.)
 ōc lāfi', I will get. 137-2. (Pl. 24, fig. 11.)
 na ca', I go about. 133-6. (Pl. 35, fig. 10.)
 nūc 'i ne, I saw it. 137-1. (Pl. 28, fig. 10.)
 bec 'ai', I will try it. 109-9. (Pl. 5, fig. 5.)
 bec na', I will roast. 168-16. (Pl. 33, fig. 2.)
 da'n die ge', I will pick you up. 141-4. (Pl. 7, fig. 3.)
 tūc ge', I will carry. 135-4. (Pl. 8, fig. 4.)
 te'ic t'a tē le, I will feather arrows. 156-5. (Pl. 7, fig. 9.)
 kwac 'i ne, I always do that. (Pl. 28, fig. 12.)
 na hūc da, I will go back. 132-8.
 na hūn dac, go back. 115-7.

The definite tense has the vowel ī, with no known connection with an independent pronoun form.⁶³

- nī ya ye, I came there. 136-17. (Pl. 29, fig. 6.)
 nī gī ne, I bring. 138-14. (Pl. 43, fig. 8.)
 nō na nī kate', I fell back. 182-16. (Pl. 44, fig. 11.)
 sī yī ne, I stand. (Pl. 25, fig. 7.)
 sī tī ne, I lay. 175-16. (Pl. 39, fig. 9.)

⁶¹ III, 95.

⁶² Compare Hupa -iūw, -ūw, and -w, III, 97.

⁶³ III, 100.

- cō' gī la ce, I fixed it good. 76-12. (Pl. 31, fig. 5.)
 dō yī he' e, I am tired. 98-1. (Pl. 36, fig. 6.)
 be nē sīL get de, I am getting afraid. 130-15. (Pl. 44, fig. 3.)
 te sīL tēōl', I stole. (Pl. 42, fig. 1.)
 sī tī ne, I lay. 175-16. (Pl. 39, fig. 9.)
 stiñ, she lay. 100-2.

The first person dual and plural has a syllable immediately before the stem beginning with d. The vowel is the weak short ū followed by the third modal prefix when it is present, surd l becoming sonant. In its absence the initial of the stem is taken over.⁶⁴

- nan dāl 'a', we will make a dam. 163-11. (Pl. 28, fig. 1.)
 na dāl yīc, let us rest. 140-18. (Pl. 30, fig. 5.)
 dō yī de he' e, we are tired. 116-17. (Pl. 36, fig. 8.)
 dō dāl sūa he, we did not see. 116-18. (Pl. 26, fig. 7.)
 te'nō dūg ge', we will put in water. 139-9. (Pl. 24, fig. 3.)
 ka' dāt tca', well, let us cook. 149-7. (Pl. 25, fig. 11.)

When the stem of the dual and plural is different from that of the singular, instead of the prefix d- the first person in all tenses has ī-, not to be distinguished in sound from that found in the first person singular in the definite tense.

- bē dūL, let us climb. (Pl. 23, fig. 13.)
 tī dūL, let us go. 141-6. (Pl. 38, fig. 2.)
 ka sī del', we came up. 141-2. (Pl. 1, fig. 7.)

The second person singular has -n, undoubtedly connected with the independent pronoun niñ, completing the syllable which precedes the stem. It appears to be dropped before the third modals l, L, and d.⁶⁵

- ūñ qōt, spear it. 128-12. (Pl. 44, fig. 7.)
 na nūn dac, come down (imp.). (Pl. 23, fig. 6.)
 de dūn 'ac, put on the fire (imp.). 127-12. (Pl. 23, fig. 15.)
 te'e nūn yac, come out (imp.). (Pl. 24, fig. 4.)
 ūL tēi, make it. 79-8. (Pl. 41, fig. 8.)
 nūn sūL gal, you hit. 129-10. (Pl. 42, fig. 8.)
 te'ūL dūk, crack it. 138-2. (Pl. 38, fig. 8.)
 k'wūn nūl lūc,⁶⁶ put it on. (Pl. 31, fig. 7.)
 te'ūn yañ, you eat. 125-7. (Pl. 29, fig. 13.)
 te'o' yañ, you (plu.) eat. 148-6. (Pl. 29, fig. 10.)

The prefix appearing in the second person dual and plural is

⁶⁴ III, 98.

⁶⁵ III, 98.

⁶⁶ n assimilated to the following l.

-ō', in which the aspiration is quite marked. The third modal *l* completes the syllable when present. In certain cases the vowel seems to be contracted, resulting in aspirated *a*.

- na te'ō' Lō, set snares. 108-2. (Pl. 25, fig. 5.)
 n tō' lāL, go to sleep. 110-16. (Pl. 31, fig. 11.)
 be cō' lōs, take me up. 147-6. (Pl. 6, fig. 1.)
 ta te'ō' buL, make soup. 123-13. (Pl. 24, fig. 1.)
 te'ō' yañ, you (plu.) eat. 148-6. (Pl. 29, fig. 10.)
 ōL k'añ, make a fire. 103-7. (Pl. 3, fig. 7.)
 na cōL na būñ, you must doctor me. 166-10. (Pl. 33, fig. 4.)
 ne sōL yañ, you ate up. 136-16. (Pl. 24, fig. 10.)
 te'n nōL t'as, cut them. 166-15. (Pl. 40, fig. 11.)
 ō't gūc,⁶⁷ look at them. 164-9. (Pl. 25, fig. 13.)
 na' be, swim. 111-2. (Pl. 36, fig. 9.)

Third Modals⁶⁸

ō.—When it is desired to convey a command or permission to a third person *ō* is found directly preceding the prefixes discussed below. By its logical limitation it can only be used in the third person.

- te'ō gac, let him chew it. (Pl. 5, fig. 6.)
 te' tōL k'as dja', let him drop it. 129-8. (Pl. 10, fig. 4.)
 te'ōL tei dja', let him make. 140-2. (Pl. 27, fig. 6.)
 n he ōL ka kwic, we will spend the night probably. 105-3. (Pl. 27, fig. 10.)
 te'n nōL yōL, let it blow. 80-13. (Pl. 30, fig. 11.)
 n tō lāL, let him sleep. (Pl. 31, fig. 8.)
 ta ya' ō nañ, let them drink. 123-6. (Pl. 33, fig. 5.)
 ō t yats, let it snow. 93-5.

A number of prefixes occur between the subjective prefixes and the stems. In the case of only one of these, *L*, is it ever possible to discover any meaning or force imparted by it. Certain stems seem always to be preceded by *t* or *d* and others by one of the other third modals.

It would seem that *L* in a few cases has a transitive force, since the same stems when they occur without it have intransitive meaning. In many other cases it is impossible to observe the transitive meaning because the real force of the stem itself is not apparent.

The stem -tāL, -tāl', referring to movement of the feet has

⁶⁷ *ō* is a prefix, see p. 52.

⁶⁸ III, 34.

L when transitive and is without it when used of walking or standing.

na ũn gũL tãL, he kicked out. 89-7.

nõ dũn tãL, you step. 82-1.

nõ t gũn tãL, stood. 82-3.

The stem -tin, -tic, used of persons, animals, and things of animate origin, has L when transitive or when used of the dead or sick, but does not have L otherwise.

s'ũL tin, he sick lay down. 158-4.

nõL tiñ, he laid him down. 80-6.

stiñ, lay. 100-2.

nõ'tic, lie down (plu.). 96-13.

It seems impossible to distinguish fully between the use of L and l. The latter is used always in the first person plural and the former in the second person plural. This difference is almost certainly due to phonetic causes. Occasionally l seems to be used of the passive but it may be that these passives belong to a set of forms with l, neutral in force, that seem to exist for many or all verbs with L.

nõ wil k'as, fell. 152-1.

tc' tũL k'as dja, let him drop. 129-8. (Pl. 10, fig. 4.)

gũL k'an, a fire was. 108-2. (Pl. 45, fig. 10.)

gũL sãn, it was found. 83-13.

But compare gũL tcãt, they shouted. 114-3.

gũL tcãt, they (elk) shouted. 165-9.

gũL tcĩñ, they made. 178-3.

gũL tcĩñ, were made(?). 162-3.

On the other hand, the many transitive verbs treating of the movement of objects classified by the stem as to shape and number, do not have L, except -tcõs, relating to flat flexible objects.

A number of Kato verb stems are always preceded by t. The iterative prefix, na-, requires t in the same position. It is possible that t also has an iterative force in all cases.

õ't gũc, look at them. 164-9. (Pl. 25, fig. 13.)

n hõc t ge, let me see you. 142-6. (Pl. 43, fig. 2.)

wũn gũt t yac, some became old. 107-11. (Pl. 30, fig. 6.)

bũL tc' gũt t yĩñ, he doctored. (Pl. 30, fig. 3.)

dõ ha' ka nõn t yañ, do not be ashamed. 141-8. (Pl. 30, fig. 2.)

te t bil, it rained. 81-1. (Pl. 36, fig. 13.)

tc' õn t gets, he looked at them. (Pl. 43, fig. 5.)

ye na gũt ya, he went again. 99-4.

tc'e na gũt dac, he came up again. 149-13. (Pl. 10, fig. 6.)

When *L* and *t* (due to preceding *na*) both occur, the *L* precedes the *t*.

na heL t kû, they went back. 163-6.

na gûl t bañ, he limped along. 138-13.

STEMS

The verbal stems of Kato in many cases have two forms differing phonetically. The present usually has the shorter and weaker form.⁶⁹ In a number of cases the variation in the form of the stem is due to what appear to be reduced suffixes *-n*, *-l* and *-L*, and *-c*. It is possible that the glottal stop (°) which seems in some cases to characterize the definite past is also a remnant of a suffix.^{69a}

Some stems phonetically identical have no discoverable similarity in meaning. Since the complete verbs built upon these are usually quite different, no confusion arises. It is possible that a number of these could be shown connected in meaning if the history of the language were known.

-°ai°, *-°a°*, to have position.⁷⁰

bee °ai°, I will try it. 109-9. (Pl. 5, fig. 5.)

ka l °a°, it sprang up. 76-10. (Pl. 9, fig. 1.)

Le ges °a°, it was encircling. 82-15. (Pl. 23, fig. 5.)

nai °ai būñ, it will be across. (Pl. 23, fig. 8.)

dī °ûñ es °a°, up there in a row. 109-10. (Pl. 28, fig. 4.)

-°añ, *-°ac*, to transport or give position to round objects.⁷¹

de t gûñ °añ, he put in the fire. (Pl. 7, fig. 2.)

nō ga °ac, he put along. 86-11. (Pl. 23, fig. 11.)

de dûñ °ac, put on the fire. 127-12. (Pl. 23, fig. 15.)

nō° °ac, put it (plural). 110-11. (Pl. 28, fig. 7.)

⁶⁹ These are discussed above, p. 18.

^{69a} In many cases it is difficult or impossible to establish the exact form of the stem. There are several with endings *-c* and *-n* as *-te'an* and *te'ac*, to shoot; *-tean* and *-teic*, to leave. It seems probable that *-c* is a suffix. It may be that *-n* is also a suffix and that the stem ends in a vowel. If the *-n* belongs to the stem its disappearance before *c* would occasion no surprise. There are several stems, however, which have the simpler form occurring. In both Hupa and Kato the stem meaning to carry on the back has the forms: *-ge°*, *-gûc*, *-geL*, *-gin* (Kato); *-we*, *-wûw*, *-wel*, *-wif*, *-wen* (Hupa).

⁷⁰ III, 203.

⁷¹ III, 206. This is probably the stem above to which *-ñ* and *-c* are added.

-al⁶, -al, to chew.⁷²

te' gún al⁶ ya⁶ nī, he chewed it they say. 109-7. (Pl. 26, fig. 4.)
 na te' al, he was chewing. 143-3. (Pl. 41, fig. 5.)

-atc, -ac, to walk, to crawl.⁷³

ta te'úl atc ē kwa nañ, (turtles) have come out of water. 95-8.
 túl ac búñ, (turtles) must walk. 121-4.
 te't túl ac búñ, (crawfish) must walk. 121-4.

-ēil, -ēil⁶, to sit (plural only).

nō' il, you stay. 168-1.
 te'nūñ ēil⁶, they sat down. 170-8. (Pl. 28, fig. 9.)
 nō' ēil búñ, you must stay. 105-2. (Pl. 28, fig. 8.)

-ēiñ⁶, to look.⁷⁴

n dūl ēiñ⁶, let us look. 168-1. (Pl. 3, fig. 3; pl. 28, fig. 11.)
 kw nīl in⁶, he looked at him. 134-2. (Pl. 9, fig. 5.)
 dō kō gīs iñ⁶, one couldn't see. 81-1. (Pl. 24, fig. 13.)
 ya te' kw neL iñ⁶, they saw him. (Pl. 25, fig. 3.)
 te'n ne gūL ēiñ⁶, he looked at it. 156-16. (Pl. 25, fig. 12.)
 nec ēiñ⁶ tō le, I will look. (Pl. 27, fig. 3.)
 nūc ēi ne, I saw it. 137-1. (Pl. 28, fig. 10.)

-ēiñ⁶, to do.⁷⁵

kwac ēi ne, I always do that. (Pl. 28, fig. 12.)
 kwal iñ⁶, you (plu.) do that. 113-4. (Pl. 28, fig. 13.)

-ēúts, to run, to move aimlessly.⁷⁶

nas ēúts, he ran about. 134-3. (Pl. 29, fig. 1.)

-ēúts, to shoot.⁷⁷

te ēúts, he shot along. 144-9.

-yai, -ya, -yac, to go.⁷⁸

da bes ya⁶, he climbed up. 180-6. (Pl. 6, fig. 4; pl. 23, fig. 14.)
 ye' te' gún yai, he went in. 97-11. (Pl. 10, fig. 9; pl. 23, fig. 2.)
 te'e nūn yac, come out. (Pl. 24, fig. 4.)
 kwút te' gún yai, he went down. (Pl. 24, fig. 9.)
 te' nūn yai, he came there. 142-14. (Pl. 25, fig. 6.)
 te' nūn ya hūt, when he came. (Pl. 26, fig. 6; pl. 29, fig. 8.)
 te' tes yai, he went. 116-9. (Pl. 29, fig. 2.)
 Lūn tes yai, they came together. (Pl. 29, fig. 4.)
 ca k'ēñ yai, sun went down. (Pl. 29, fig. 5.)
 nī ya ye, I came there. 136-17. (Pl. 29, fig. 6.)

⁷² III, 206.

⁷³ III, 209.

⁷⁴ III, 209.

⁷⁵ III, 211.

⁷⁶ III, 212.

⁷⁷ III, 211.

⁷⁸ III, 212.

-yal, relating to sleepiness. Used with person affected as object.

e gi yal, I am sleepy. 164-4. (Pl. 29, fig. 7.)

e gi ya lã, I am sleepy. 114-10.

-yan, -yac, -yãL, to grow, to become old.⁷⁹

nes ya nĩ kwa nã, it had grown.

wũn gũt t yac, some became old. 107-11. (Pl. 30, fig. 6.)

kõ wĩ yãL, they were growing. 88-15.

-yan, to like (used with possessive prefix and -dji^e, heart).

dõ kw dji yan, he didn't like. 91-7.

dõ s teĩ kw yan ãĩ gi, I don't like him. 142-16.

-yãñ, to clear off.

nĩñ yãñ kwãñ ãĩ gi, it has cleared off. 168-1. (Pl. 26, fig. 1.)

nĩñ yan de^e, when it cleared off. 167-17. (Pl. 27, fig. 1.)

-yãñ, to be ashamed.

dõ ha^e ka nõn t yãñ, do not be ashamed. 141-8.

ka nõ t yan, she was ashamed. 180-8.

-yan^e, -yil^e, to eat.⁸⁰

ne sũL yan, you ate up? 136-16. (Pl. 24, fig. 10.)

te' gũn yan^e, he ate of it. 129-5. (Pl. 29, fig. 9.)

te' õ' yãñ, you (plu.) eat. 148-6. (Pl. 29, fig. 10.)

te'ũn yan, you (sing.) eat. 125-7. (Pl. 29, fig. 13.)

te'neL yil^e, she eats up. 180-9. (Pl. 1, fig. 9.)

Cf. nes yĩ dja^e, let me eat. 181-12.

-yats, to snow.⁸¹

õ t yats, let it snow. 93-5.

-yel^e, to stop crying(?).

te't deñ yel^e, he stopped crying. 148-4. (Pl. 29, fig. 14.)

-yeg, -ye', to make a deer drive.

te'n na dũl yeg, we will drive. 110-9.

te'n na dũl yeg, she always hunts. 181-7.

-yĩ, to name, to call by name.

te'õL yĩ kwãñ hũt, he had named when. 117-12.

õ yĩ bũn dja^e, shall be called. 99-7.

-yĩñ, to stand.⁸²

sĩ yĩ ne, I stand. (Pl. 25, fig. 7.)

Cf. te' sũñ ãĩ gi, he is standing. (Pl. 26, fig. 2.)

⁷⁹ III, 219.

⁸⁰ III, 217.

⁸¹ Cf. yas, snow, III, 19.

⁸² III, 220.

-yĩñ, to live at a place.⁸³

nō nūn yĩñ, they lived. 160-12. (Pl. 29, fig. 12.)

-yĩc, yĩ, to speak. (First and second persons only).⁸⁴

kūn nūc yĩc, I will speak. 120-9.

a dōc yĩ, I boast. 128-1.

kwi nūn yic, you will talk. 174-3.

kō nō' ic, speak (plu.). 120-8.

-yĩc, to break.⁸⁵

te' gūn yic, he broke it. 79-12. (Pl. 10, fig. 3.)

-yĩc, to whistle.⁸⁶

kwōL yic, he whistled. (Pl. 30, fig. 7.)

-yĩc, -yĩc, to rest.⁸⁷

na dūl yic, let us rest. 140-18. (Pl. 30, fig. 5.)

na ges yite, he rested. 161-4. (Pl. 30, fig. 4.)

-yīt, yik, -yīc, to build a house.⁸⁸

ūc yīt, I will make a house. 168-6. (Pl. 30, fig. 8.)

s'ūs yī(k)c, he made a house. 168-7. (Pl. 30, fig. 9.)

gūl yīc ya' nī, he built a house they say. 83-11. (Pl. 30, fig. 10.)

-yōl, -yōL, yō, to blow.⁸⁹

te'n nōL yōL, let it blow. 80-13. (Pl. 30, fig. 11.)

Cf. ō wī yō, she fanned. 153-3.

-yōs, to lead, to drag.

ye' kwil yōs, they took her in. 158-15.

-yot, -yō, -yōl, yōL, to chase.⁹⁰

kwūn tin yōt, they ran after him. (Pl. 30, fig. 13.)

būn tī gī yō, they chased it. 174-10.

kwūn ī yōl, they followed him. 98-11.

na būn yōL, they drove. 170-16.

-lai, -la, -lāc, to move several objects.

ka na gūl lāc, she digs out. (Pl. 31, fig. 1.)

ū na' te'e na lai, her eye she took out. 152-9. (Pl. 31, fig. 2.)

k'wūn nūl lāc, put it on (sing. imp.). (Pl. 31, fig. 7.)

bel get k'wūn nō' lāc, spear points put on. 168-11. (Pl. 31, fig. 6.)

⁸³ III, 220.

⁸⁴ III, 246. See -nī, -n below, p. 65.

⁸⁵ Cf. Hupa -yeūw, to rub, to knead. III, 220.

⁸⁶ Cf. Hupa -yeūw, to rest, to get one's breath. III, 220.

⁸⁷ III, 220.

⁸⁸ See ye, yik, house, p. 19.

⁸⁹ III, 221.

⁹⁰ III, 221.

-lal, -lāl, to sleep, to dream.⁹¹

n tō lāl, let him sleep. (Pl. 31, fig. 8.)

n tes lal ya' nī, he went to sleep they say. 83-4. (Pl. 31, fig. 10.)

nō hin n tō' lāl, you (plu.) go to sleep. 110-16. (Pl. 31, fig. 11.)

ū nas lāl, he dreamed about. 145-2.

-lañ, to laugh.

ya's lan, they laughed. 155-2.

dō slañ, he did not laugh. 103-15.

-lañ^e, to get.

ōe lañ^e, I will get. 137-2. (Pl. 24, fig. 11.)

ō' lañ, you get. 133-14. (Pl. 1, fig. 4.)

-lat, to float.⁹²

kwūn ye' gūl lat, it sank. 174-12. (Pl. 24, fig. 8.)

te'n nūl lat, it floated there. 148-1.

-lag, -la', -le', to do.⁹³

kwail la' ya' nī, he did it they say. (Pl. 31, fig. 3.)

dī kwa' lae, he did this way. 154-5. (Pl. 31, fig. 4.)

cō' gī la eē, I fixed it good. 76-12. (Pl. 31, fig. 5.)

a cō' ūl le', dress yourself. 103-1.

-le^e, to sing.

te'e lē^e, he sang. 149-11. (Pl. 32, fig. 1.)

te'e gūl le^e, he commenced singing. 105-11. (Pl. 32, fig. 4.)

-lee, -le', to swim under water.⁹⁴

na gūl lee, fish were swimming down. 164-1. (Pl. 32, fig. 2.)

wān nī le get, I swam to because. 175-5.

-lī^e, to snare.⁹⁵

te'ūs lī^e, he caught in a noose. 108-4. (Pl. 1, fig. 6; pl. 32, fig. 7.)

nas lī^e, he tied up. 145-7. (Pl. 32, fig. 6.)

-liñ, to flow.

na na gūl lī ne, it runs down. 121-9.

-liñ^e, -le, to become.⁹⁶

nas dūl lin ne, we have got back. 95-12. (Pl. 3, fig. 6.)

s'ūs liñ^e, he became. 84-11. (Pl. 32, fig. 3.)

⁹¹ III, 232.

⁹² III, 232.

⁹³ III, 230.

⁹⁴ III, 237.

⁹⁵ Cf. Hupa -loi, to tie, III, 236.

⁹⁶ III, 233.

-lō, to hail.

ō lō, let it hail. 93-6.

-lō, to deceive.

te' kwL lō' ūt, when he fooled him. 136-14. (Pl. 26, fig. 5.)

akō lō ē kwāñ, he was pretending. 134-6.

-lōs, to lead.⁹⁷

be cō' lōs, take me up. 147-6. (Pl. 6, fig. 1.)

gāl lōs tē le, he will bring it. (Pl. 32, fig. 9.)

te'te lōs, he led. 159-9. (Pl. 32, fig. 10.)

-lūt, -Lūt, to burn (see Lūt, smoke).⁹⁸

i gi lūt ūñ gi, we are burning. 104-13.

gāl lūt, it was burning. 173-16. (Pl. 32, fig. 8.)

nais Lūt, is burning? 119-6.

na' Lūt, you burn. 119-1.

Cf. de lūg, burns. 100-6.

-lūts, to urinate.

bī' ō' lūts, in it urinate. 138-14.

-lūk, to tell, to relate.⁹⁹

wān te' kō lūk, he told about it. (Pl. 32, fig. 11.)

dō ha' wan kwāl lūk būñ dja', you must not tell him. 139-13.

-La, to shoot.

ō nō' La būñ, you must shoot. 173-4.

te La, he shot. 144-12.

-Lañ, to be many.

gūn Lañ, became many. 83-14. (Pl. 33, fig. 10.)

gūn La ne, have become many. 169-10. (Pl. 33, fig. 11.)

-Lat, -La (-Lag?), to jump.¹⁰⁰

na nūn Lat, jump across (sing. imp.). (Pl. 34, fig. 3.)

te'e nan La, he jumped out. 142-6. (Pl. 34, fig. 4.)

na nūn La gūt, he jumped across when. 147-7.

-Leg, Le', relating substances of dough-like consistency.¹⁰¹

bī nō' Le', soak them. 110-6. (Pl. 34, fig. 1.)

bī' nō gūL Leg, they soaked them. 179-1. (Pl. 34, fig. 2.)

-Lūts, to be rough, to be strong.

n Lūts, it is stout. 78-12. (Pl. 34, fig. 5.)

⁹⁷ III, 237.

⁹⁸ III, 236, 239.

⁹⁹ III, 236.

¹⁰⁰ III, 238.

¹⁰¹ III, 239.

-Lõi, -Lõ, -Lõn, to twine a basket, to braid.¹⁰²

te' Lõi ùñ gĩ, she is making a basket. (Pl. 2, fig. 7.)

na te'õ' Lõ, set snares. 108-2. (Pl. 25, fig. 5.)

õ' Lõ, braid. 113-3.

a de' te'ùs Lõ kwàn, he had girded himself. 103-3.

na t gút Lõn, he set snares. 108-4.

-na, relating to hunger. (It has the person affected as an object.)

e gĩ na', I am hungry. 141-14.

e gĩ na e, I am hungry. 168-15.

-nai', -na', to roast.¹⁰³

te'eL nai', it is roasted. 113-15.

bee na', I will roast. 168-16. (Pl. 33, fig. 2.)

te'gel na', he roasted. (Pl. 33, fig. 1.)

-na(?)

nõL tin na', were left. 158-10.

-nạn, to drink.¹⁰⁴

ta ya' õ nặ, let them drink. 123-6. (Pl. 33, fig. 5.)

tai nạn, drink. 88-6.

ta nạn, he drank. 79-2.

-nac, -nai, -na, to go. (Third person only.)¹⁰⁵

ka nac, it came up. 81-2. (Pl. 24, fig. 7.)

ka gún nac, he came up. 75-2. (Pl. 33, fig. 8.)

ye gún nac, went in. 165-15.

ye gĩ nai', they went in. 107-17.

ye nĩ na, came in. 143-11.

-nat', to lick with the tongue.

te'ùL nat', licked. 103-14.

-nes, to be long.

gún nes, it became long. 87-1. (Pl. 25, fig. 8.)

-nĩ, -ne, -n, -nec, -nĩL, to speak.

he ù' te'n nĩ, yes he said. (Pl. 33, fig. 9.)

te'te gún nĩ, it makes a noise, thundered. 77-10. (Pl. 33, figs. 6, 7.)

a dõ' ne kwàn nặ, you talk. 166-9.

ya'n ya' nĩ, they said they say. 82-11. (Pl. 4, fig. 4.)

kwùL ùn ya' nĩ, he told him they say. 151-9. (Pl. 3, fig. 2.)

te' kún nec, he talked. 160-1. (Pl. 25, fig. 14.)

dõ kin nec, didn't speak. 141-16.

t gún nĩL, it kept hooting. 179-7.

¹⁰² III, 239.

¹⁰³ III, 242.

¹⁰⁴ III, 243.

¹⁰⁵ III, 242.

-níc, to play.¹⁰⁶

na eó' níc, you played with. 134-17.

na gûs níc kwān, he had been playing. 115-10.

-nûk, to relate.

wûn kw nûk de', you tell about when. 176-2.

-sas, to pull, to drag.

ta nas sas, he pulled it out. 132-7.

tat dâls sas, we dragged out. (Pl. 35, fig. 6.)

-sat, to be deep.

kwûn sat, deep water. 74-10. (Pl. 34, fig. 11.)

-sat, -sât, to sit.

nûn sât, sit down. 140-18. (Pl. 34, fig. 10.)

na nô' sât, you (plu.) camp. 173-7.

-sî', relating to one's head and its position.

be t gûn sî', had her head close. 152-3.

t gûn na sî', turned heads. 165-12.

-sîl, to steam(?)¹⁰⁷

nê sil, I am sweating. (Pl. 35, fig. 1.)

-sîl', -sûl, -tsûl, to strike (repeatedly)¹⁰⁸

na neL sîl', it struck. 162-11.

kwûn ye to'ûl sîl, it pounded into the ground. 154-10.

ôl sîl, peck. 113-9.

nûn yîl tsûl, beats against it. 86-12.

-sô(?)

nô te gûl sô, she pushed in. 153-3.

-sûl, -sûl, to be warm¹⁰⁹

kô wûn sûl, it was becoming hot. 81-2. (Pl. 1, fig. 5.)

gûn sûl le, is hot. 149-7.

gûn sûl, it became warm. 96-4.

-sûñ, to think. (First and second person.)

dô kw ne sûñ, I was insensible. 182-17. (Pl. 35, fig. 5.)

nô nûc sûñ út, I thought you. 171-6.

-sûn, to hide.

be nô' sûñ, you (plu.) hide it. 113-4. (Pl. 35, fig. 3.)

be nôn sûn kwafî ûñ gî, you were hiding it. 101-10.

be nô gûs sûn, she hid. 135-11.

¹⁰⁶ III, 247.

¹⁰⁷ III, 253.

¹⁰⁸ Cf. -sût, to pound.

¹⁰⁹ See -sîl above. III, 253.

-sũñ, -sũs, to hang, or to be hanging.

te' teL sũñ, he hung up. 176-18. (Pl. 35, fig. 4.)

naL sũs, hanging. 176-18.

-sũs, to see.^{109a}

cũL sũs e, (nobody) sees me. 176-1.

dõ dũL sũs he, we did not see. 116-18. (Pl. 26, fig. 7.)

-sũt, to fall.¹¹⁰

nũL sũt, he fell. 147-8.

te' teL sũt, he fell. 147-7.

-sũt, to pound.¹¹¹

ũs sũt, I will pound. 110-3. (Pl. 35, fig. 8.)

k' gũn sũt, she pounded. 135-9. (Pl. 35, fig. 9.)

-sũt', to wake up.¹¹²

tee' sũt, wake up. 100-9.

te'e'n sũt', woke up. 134-13.

-ca', -cac, to go. (First person only.)¹¹³

na ca', I will go about. 133-6. (Pl. 23, fig. 7.)

nan ca', I will cross. 154-1.

ta cac, I went. 182-17.

-ca', to catch with a hook.¹¹⁴

gũs ca', they caught. 158-8.

-ce', to spit.¹¹⁵

k'wũt te'e ya ce', they spit on. 154-14. (Pl. 35, fig. 12.)

-cũn', -cũn', to be black.

et cĩ nẽ kwũn nũñ, it had turned black. 94-7. (Pl. 3, fig. 1.)

nL cũn', black. (Pl. 36, fig. 2.)

-cĩ', to dig.¹¹⁶

ka te' gũc cĩ', they dug. 148-11. (Pl. 35, fig. 13.)

ka te' gũn cĩ', they were digging. 148-8. (Pl. 35, fig. 14.)

ka ya' cĩ', they dug. 148-12.

-cõñ, to be good, to be good looking.¹¹⁷

n cõ ne, it is good. 79-4.

n cõñ ãñ gĩ, it is beautiful. 100-5.

^{109a} See Hupa -tsia. III, 272.

¹¹⁰ Hupa -tsit. III, 273.

¹¹¹ Hupa -tsit, III, 272.

¹¹² III, 253.

¹¹³ Hupa -hwai, -hwa, -hwauw, III, 248.

¹¹⁴ Hupa -hwal, -hwal, III, 248.

¹¹⁵ Cf. cek, spit.

¹¹⁶ Hupa -hwe, III, 249.

¹¹⁷ Hupa, -hwõñ, III, 201.

-he^e, to be tired (but only when used with a negative prefix).

dō yī he^e, I am tired. 98-1. (Pl. 36, fig. 6.)

nīñ dōñ he^e ãñ, are you (sing.) tired? 141-1. (Pl. 36, fig. 7.)

dō yī de he^e, we are tired. 116-7. (Pl. 36, fig. 8.)

-ba, to be thirsty.

ta gī ba, I am thirsty. 141-10.

t gī ba e, I am thirsty. 118-4.

-bañ, to walk lame.

te't teL bañ, he walked lame. 133-6. (Pl. 24, fig. 14.)

nae ba nē, I am lame. 133-8.

na gūl t bañ, he limped along. 138-13.

-bat, -bạc (-búc), to embrace(?).

be te' ma dūt, he embraced it when. 131-2.

da kit dāl búc, he embraced it. 180-3.

-be^e, to bet.

te'úe be^e, I bet. 146-12.

-be, -bīl^e, to pick.

ya' te' bē, they were picking. (Pl. 36, fig. 10.)

ya' k' tē bīl^e, they went to gather. 152-5.

ya' te' be dūñ, they were picking where. 120-6.

ka gūm me, he gathered. 76-4.

-be, -bīn, -bíc, to swim.¹¹⁸

nō hin na' be, swim (plu. imp.). 111-2. (Pl. 36, fig. 9.)

nī bī ne, I swam. 118-17.

na nō' bíc, swim across. 96-11.

tām míc, swim. 118-16.

-bīl^e, -būl, -būL, to fall, to rain (plural object).¹¹⁹

te t bīl^e, it rained. 81-1. (Pl. 36, fig. 13.)

ya' ga bīl^e, they threw over. 149-8.

kw na s'is bīl^e, he sprinkled around him. 80-6.

oōñk tāt būl, good it rains. (Pl. 36, fig. 12.)

ee nan t būL, come to me again. 143-8.

-būL, to handle flour(?).

ta te'ām mūL, cook mush (sing. imp.). 163-14. (Pl. 6, fig. 8; pl. 37, fig. 5.)

ta te'ō' būL, cook mush (plu. imp.). 123-13. (Pl. 24, fig. 1; pl. 37, fig. 6.)

-būL, to hang up.

te't teL būL, he hung it up. 79-13. (Pl. 37, fig. 2.)

tūc būL, I will hang up. 115-6. (Pl. 37, fig. 3.)

te' teL būL kwāñ, he had hung up. 176-3. (Pl. 27, fig. 8.)

¹¹⁸ Hupa -me, -men, III, 240.

¹¹⁹ Hupa -meL, -mil, -mīL, III, 240.

-bûn, to be small (†).

dô bûn nê kwa nâñ, were small. 95-6.

ya' dô mûñ, they became small. 107-12.

-bûñ¹²⁰, to be full.

dê mûñ^e (dîn bûñ^e), it was full. 129-12. (Pl. 37, fig. 1; pl. 6, fig. 6.)

l te mûñ^e, were full. 82-14.

dô te bûn ne, is not full. 149-6.

tes dâl bûñ, we filled. 182-2.

-da, -dai, to sit, to remain.¹²¹

sûn da, you stay (sing. imp.). 79-7. (Pl. 37, fig. 7.)

bî^e sta, he was sitting in. 132-3. (Pl. 6, fig. 7.)

sî dai, I sit. 140-7.

te'n nes dai, he sat down. 161-10. (Pl. 37, fig. 8.)

-dai, to be exhausted (†).

dô teô^e dai, he didn't give out. 126-12.

-dac, to travel.¹²²

te'e na gûl dac, he came up again. 149-13. (Pl. 10, fig. 6; pl. 37, fig. 10.)

yaL dac bûñ, you must jump up. 82-16.

-dac, to dance.

nûc dac, I will dance. 103-9. (Pl. 37, fig. 9.)

te' gûn dac kwañ, he had danced. (Pl. 37, fig. 11.)

-del^e, -dûl, to go (dual only).¹²³

te'n nûn del^e, they came up. 158-6. (Pl. 37, fig. 13.)

ka sî del^e, we came up. 141-2. (Pl. 1, fig. 7; pl. 37, fig. 12.)

te't tes dê le, they went on. 108-12. (Pl. 38, fig. 1.)

bê dûl, let us climb. (Pl. 23, fig. 13.)

tî dûl, let us go. 141-6. (Pl. 38, fig. 2.)

-del^e, -del, -dûl, to handle objects (plural).

dê t gûl del^e kwañ, had put in the fire. 131-7.

da nôl dêl kwañ, he had put on a frame. 135-4.

ta ya il dûl, she put in water. 143-4.

-deg, -de', to win.

na^e te'ûs deg, he won back. 147-1.

na^e te'ûs de', he won back. 146-14.

kô wân te' gûl de', from him he won. 146-8.

¹²⁰ Hupa -men, -miñ, III, 241.

¹²¹ III, 254.

¹²² Cf. -daww, III, 255.

¹²³ III, 256.

-deg, -de', to wash.

te' na te'ús dēg, he washed it. 129-2.

te' na te'gūL de', she washed them. 153-5. (Pl. 38, fig. 3.)

te' na te'ús de, he washed it. 168-16.

-dĩñ', to shine.¹²⁴

tein ús dĩñ', shone. 85-9.

na te'nûn dĩn bûñ, it will be light. 140-4.

cân dĩ ne, the sun shines. 182-13. (Pl. 38, fig. 4.)

-dō', to be none.¹²⁵

n dō' bûñ, it will not be. 80-13. (Pl. 38, fig. 5.)

nât dō', all gone. 99-11.

n dō' ye, there is none. 109-1. (Pl. 38, fig. 6.)

-dûl, -dûL, relating to the movement of fish in numbers.

nûn dûl, they came. 169-8.

tân dûl, come. 120-17.

tân dûL bûñ, must come. 120-18.

-dûL, to move something up and down(†).

na nâL dûL, he moved (a basket) up and down. 150-2.

-dûn, to die.

ne' ô dûn, you will die. 177-4. (Pl. 25, fig. 2.)

ee dûn ne, I died. 128-4. (Pl. 38, fig. 7.)

cee dûn tē le, I will die. 177-5. (Pl. 38, fig. 9.)

-dûts, -dûs, to twist.

gât dûts, is twisted. 114-1.

-dûk, to crack (acorns).

te'ûe dûk e, I crack them. 140-4.

te'ûL tûk, crack them. 138-2.

te'ûL tûk bûñ, you must crack. 136-1.

-djiñ, to be day.

ô djĩñ kwie, about day probably. 134-1.

-djöl', to roll.

tân nas djöl', it rolled out of the fire. 147-9. (Pl. 10, fig. 1; pl. 41, fig. 3.)

-tal', tãL, to step or move the foot.¹²⁶

te' te' gûn tal', he stepped in water. (Pl. 38, fig. 10.)

nô dûn tãL, you step. 82-1.

te'te gûL tãL, he dragged his foot along. 90-4.

¹²⁴ III, 260.¹²⁵ Cf. dō, not, the negative prefix.¹²⁶ III, 261.

-*tañ*, -*tíc*, to handle a large object.¹²⁷

te'en tañ, he took out (spear-shaft). 170-14.

nō wān tic būñ, give us (fish-spear). 128-13.

-*tan*, to eat (third person only).¹²⁸

te't tan ũñ gī, he is eating. 174-1. (Pl. 38, fig. 11.)

-*te*, to look for anything.¹²⁹

ka kw nō' te, look for him. 160-1. (Pl. 39, fig. 1.)

ka ũñ tē, she looked. 114-9.

ka ya' n tē, they looked. 114-8.

-*tel*, -*teL*, to be wide or flat.

n tel, flat. 180-14.

kwūn tel tē lit, it was becoming flat. 107-3. (Pl. 27, fig. 2.)

gūn tel, was flat. 106-11.

te'ūc tel kwān, he had spread. 115-11.

-*teg*, to teach(?).¹³⁰

be gūn teg, he taught. 122-11. (Pl. 39, fig. 3.)

ke gūt t'eg, he taught them. 122-1.

-*tin*, -*tūc*, relating to movement or position of an animal alive or dead, with transitive or intransitive meaning.¹³¹

nes tiñ, it is lying. 182-3. (Pl. 39, fig. 5; pl. 10, fig. 7.)

nūn s'ūs tiñ, he picked him up. 179-14. (Pl. 39, fig. 7.)

tañ nas tiñ, she took out again. 129-2. (Pl. 39, fig. 8.)

eī sī ti ne, I lay. 175-16. (Pl. 39, fig. 9.)

nō nūL ti ne, he put it. (Pl. 39, fig. 10.)

te'nes tiñ, he lay down. 175-11. (Pl. 5, fig. 2.)

ūL tūc, give it. 179-2.

na nūn tūc, lie down again. 100-1.

dōc gāl tūc, you did not give it to me. 179-5.

-*tōc*, relating to position or movement of water.¹³²

nō te'ūn tōc, water came so far. 75-1. (Pl. 7, fig. 6.)

-*tōñc*, to jump or to cause to jump.¹³³

na te'ōL tōñc, he snapped it. (Pl. 39, fig. 11.)

-*tūñ*, -*te*, to be cold.

ūs tūñ, it was cold. 96-1.

ūs tūn e, it is cold. (Pl. 40, fig. 3.)

kō wūn tūn, it is cold. 121-10.

ūc te li'c ũñ, I might be cold(?). 133-8.

¹²⁷ III, 262.

¹²⁸ III, 263.

¹²⁹ III, 264.

¹³⁰ Cf. Hupa -*tū*, -*te*, -*tel*, to sing, in a ceremony. III, 267.

¹³¹ III, 264-6.

¹³² Cf. *tō*, "water," p. 20, and III, 267.

¹³³ III, 267.

-tûk, to burst.

gûL tûk, it burst. 182-5. (Pl. 8, fig. 1; pl. 40, fig. 1.)

-tûk, to kill.¹²⁴

s dji ôL tûk, kill me (plu.) "my heart(?)" 151-8. (Pl. 40, fig. 4.)

-t'a, to use a sling.

na kw nie t'a kwie, I am going to sling at him. 122-14. (Pl. 40, fig. 9.)

-t'an, relating to wax-like substances.¹²⁵

k'we ya' heL t'añ, they stuck on. 170-6.

-t'ats, -t'as, to cut.¹²⁶

yis t'ata, he cut it. 162-10.

ta gût t'ats, he butchered. 175-4. (Pl. 24, fig. 2.)

te'n ne sîL t'ats, I cut it up. 138-15. (Pl. 40, fig. 12.)

te'n nôL t'as, cut them (plu. imp.). 166-15. (Pl. 40, fig. 11.)

-t'ag, -t'a', to fly.^{126a}

nûn t'ag, it flew. 182-11. (Pl. 40, fig. 6.)

te'ic t'a tôle, I will feather. 156-5. (Pl. 7, fig. 9; pl. 40, fig. 5.)

-t'e, to have an appearance or disposition.¹²⁷

ac t'ê, I am. 159-10.

a nô' t'ê, you are. 139-1.

an dât t'ê ye, we are. 132-5.

an t'ê, it is. 100-10.

kûn t'ê, she is like. 181-11.

-t'e, to cook.

tôL t'e, you cook (plu. imp.). 167-16. (Pl. 40, fig. 10.)

ûs t'e ye', it is cooked. 163-15. (Pl. 40, fig. 8.)

-t'iñ, to do.¹²⁸

dô kwa t'iñ, he never did that. 130-14. (Pl. 9, fig. 4.)

kwac t'iñ, I did that. 147-5.

-t'ôt, to suck.¹²⁹

k'ûL t'ôt, he sucked it. 159-2. (Pl. 40, fig. 2.)

te'il t'ôt, (make) it suck. 115-3.

-t'ôg, -t'ô', to sting.

na te'el t'ô, she stung. 156-14.

nûn yîL t'ô gût, she stung them when. 156-15. (Pl. 26, fig. 3.)

te't dûL t'ô' kwûc, something stung I guess. 114-14.

¹²⁴ Cf. -tûk, to burst.

¹²⁵ III, 268.

¹²⁶ III, 268.

^{126a} Cf. t'a', feathers, and Hupa -tau, III, 268.

¹²⁷ III, 268.

¹²⁸ III, 269.

¹²⁹ Cf. Hupa -tôt, to drink, to suck. III, 267.

-t'ök', to flake flint.

te'ús t'ök', he flaked. 156-7. (Pl. 11, fig. 8.)

-tsai, -sai, to be dry.¹⁴⁰

ól sai dja', let them dry. 136-3.

gúl tsai, it was dry. 123-4. (Pl. 34, fig. 8.)

te'ús sai, she dried it. 181-4.

-tsañ, -sañ, to find, to see.¹⁴¹

te'úl tsañ, he found. 97-4. (Pl. 34, fig. 6.)

dō ha' te'úl tsā ne, he did not find. (Pl. 34, fig. 7.)

úl sañ, do you see? 141-2.

dō gúl sañ, it was never found. 179-6. (Pl. 34, fig. 9.)

-tsañ, to hear.

ōc tsañ, I heard. 182-8.

ya' teō sūl sañ, they listened. 178-1.

-tsō, to be blue.

dúl tsō, blue. 113-13. (Pl. 35, fig. 2.)

-tsūt, to know.

dō ō dūl tsūt de, we didn't know him. 119-8.

-ts'eg, -ts'e', to eat soup.

k gúl ts'eg, he ate soup. (Pl. 41, fig. 1.)

-ts'eg, -ts'e', -s'ûl (-ts'î'), to hear.

na ya' dī ts'eg, they heard again. 106-16.

ka nāl ts'î', they heard again. 106-14.

-tcai, -tea, to bury, to cook by burying.¹⁴²

te' gūn tcai, he buried it. 129-2.

ka' dūt tca', well, let us cook. 149-7. (Pl. 25, fig. 11.)

be te gūl ca', she put in sand. 152-8.

-tcañ, to eat in company.¹⁴³

na dūl tcañ kwañ, he had eaten. (Pl. 41, fig. 4.)

na dīc tcañ ne, I ate. 171-9. (Pl. 41, fig. 6.)

na dīc tca, let me eat a meal. (Pl. 24, fig. 12.)

-tcañ, to defecate.¹⁴⁴

ts' gūn tcañ, he defecated. 142-7.

¹⁴⁰ III, 270.

¹⁴¹ III, 270.

¹⁴² Hupa -tewai, -tewa, III, 275.

¹⁴³ Hupa, -tewan, -tewāñ, III, 275.

¹⁴⁴ Cf. Hupa -tewen, -tewif, III, 278.

-tean, -tcic, to leave one.

ō teō nō' tcic būñ, you may leave it. 118-1.

dō teōs tcic tō le, I will not leave. 139-18.

ō tsōñ gūt tcañ, they left them. 178-11.

ō te'ō nī tca ne, I left him. 117-17. (Pl. 41, fig. 10.)

-tcat, -tca, to be sick.¹⁴⁵

t gūn tca de, is sick. 140-5.

dūn tca būñ, will be sick. 79-5.

-tcat, -tcət, to shout.

gūl tcət, they shouted. 165-9. (Pl. 25, fig. 10.)

ūc tcət, I will shout. 164-12.

ūl tcət, shout. 164-13.

gūl tcət, they shouted. 114-3.

-tcag, -tca', to be large.¹⁴⁶

gūn tcag kwān, had become large. 116-4.

ō tca', let be large. 93-7.

wō' n tca', teeth large. 86-5. (Pl. 4, fig. 2.)

-tee', -ce', to be bad.¹⁴⁷

n tee' e, bad. 140-18.

dō ha' n tee' mūn dja', let it not be bad. 171-10.

-teel' (?), -teūL (-teeL), to split.¹⁴⁸

dje' gūl teel, she split open. 129-3. (Pl. 24, fig. 5.)

gūl teūL, were opened. 125-6.

dje' kūl teūL, split it. 80-9.

dje' gūl teel, he split open. 129-3.

-teeg, -tce', (-ce'), to cry.¹⁴⁹

te' gūn tee ge, he cried. 133-1. (Pl. 41, fig. 11.)

ūc teī ge, I cried. 140-6. (Pl. 8, fig. 6.)

ūn tee' būñ, you may cry. 115-7.

dō ha' kw ūn ce', do not for it cry. 117-8.

-teī, to blow, said of the wind.¹⁵⁰

wa ūn teī būñ, it will blow through. 80-14. (Pl. 23, fig. 4.)

-teī', to be red, to dawn.

te' t te gūn teī', it was about dawn. (Pl. 8, fig. 2.)

te' gūn teī', it was red. 148-5.

¹⁴⁵ III, 274.

¹⁴⁶ Cf. Hupa -kya ō, -kya, III, 201.

¹⁴⁷ Cf. te'ūñ gūn tee', he was angry. (Pl. 41, fig. 13.)

¹⁴⁸ Cf. Hupa -kil, -kil, III, 282.

¹⁴⁹ Hupa -tewū, -tewe, III, 280.

¹⁵⁰ Hupa -tee, III, 274.

-tcin, -tcī, -tcīL, to make.¹⁵¹

ûL tcī, make it. 79-8. (Pl. 41, fig. 8.)

te' gûL tcīL, it is growing. (Pl. 41, fig. 9.)

kw na' ûL tcī, make him live. (Pl. 10, fig. 2.)

te'ôL tcī dja', let him make. 140-2.

gûL tcīñ, they made. 178-3.

ya' heL tcīn, they made. 170-4.

te'is tcīn, he made. 77-6.

giē tcīL, I place along. 88-1.

-tcōs, relating to flat, flexible objects, such as skins.¹⁵²

naL tcōs, she put. 180-7.

e gaL tcōs, give me. 97-13.

-tcōt, -tcōl, to steal.

k't tel tcōt, he stole. 118-11. (Pl. 9, fig. 6.)

cī te sūL tcōl', I stole. (Pl. 42, fig. 1.)

-tcōk (-cûk), to arrange in a row, to string.¹⁵³

te' gûn tcōk kwān, he had filled. 159-6.

te' gûn cûk kwān, he had strung. 135-1.

-tcûl, -tcûL, to be wet or damp.

na gûL tcûL ya' nī, he got wet they say. 126-16. (Pl. 42, fig. 3.)

naL tcûL ūt, it was wet because. 126-11.

-tcûn, -tcic, to smell.

ye gûn tcûn, he smelled it. 114-4.

gûL cûn ne, it smells. 109-6.

sûL tcic, you smell. 141-5.

-tcût, -tcī, to catch hold of.¹⁵⁴

yīL tcût, caught it. 114-4.

gûL tcût, he caught them. (Pl. 42, fig. 2.)

te'el tcī' ya' nī, he caught it they say. 142-5. (Pl. 42, fig. 5.)

naL tee būñ, you must catch. 116-16.

-tcût', to feed.¹⁵⁵

kū wa gût tcût', they fed her. 151-15. (Pl. 36, fig. 4.)

-tcût, to stretch.

nûL tcût, you stretch. 78-15.

te'el tcût, stretch it out. 77-13. (Pl. 42, fig. 4.)

¹⁵¹ Hupa -tewen, -tewiñ, -tewe, III, 276.

¹⁵² Hupa -kyōs, III, 284.

¹⁵³ Hupa -tewōk, III, 279.

¹⁵⁴ Hupa, -kit, III, 283.

¹⁵⁵ Hupa -kit, III, 283.

- te'añ*, -*te'ac*, to shoot with a bow.
s'ús te'añ, he shot it. (Pl. 41, fig. 7.)
gút te'añ, he shot. 110-13. (Pl. 25, fig. 9.)
ún te'ac, you shoot. 178-1.
- ga*, -*gai*, to walk (third person only).¹⁵⁶
na ga kwān, he had walked. 154-12. (Pl. 42, fig. 6.)
na gai būn dja', shall travel. 99-13.
- gal'*, -*gal*, -*gaL*, to throw.¹⁵⁷
nō teL gal', she threw it. 181-4.
ka te'el gal', he tipped it. 154-3.
k'e gūL gal', she threw away. (Pl. 42, fig. 11.)
na' deL gal kwān, he had poured. 125-13. (Pl. 42, fig. 12.)
ya' gūL gal', he threw up. 142-3. (Pl. 23, fig. 1.)
na nōL gal, put across. 153-18.
nō' cūL gaL, throw me. 133-4. (Pl. 25, fig. 1.)
- gal'*, -*gal*, -*gaL*, to drop, to beat.
nañ gūL gal', he beat it. 177-6.
nūn ie gal, let me chop. (Pl. 42, fig. 7.)
nūn sūL gal, you hit. 129-10. (Pl. 42, fig. 8.)
naL gal, hit again. 177-7.
- gan'*, to be mouldy.
te't gañ', it is mouldy. 167-16. (Pl. 42, fig. 9.)
- gan*, -*gaL*, to kill (with plural object).
úe gañ, I kill? 96-10.
ō' gañ, kill. 113-6.
te' gūñ ga ne, he was killed. (Pl. 42, fig. 10.)
te'e nō' nūñ a ne, he killed us. (Pl. 25, fig. 4.)
naL gi gaL būñ, must kill. 173-2.
- gac*, to chew.
te'ō gac, let them chew it. (Pl. 5, fig. 6.)
yō gac, let him chew them. 110-7.
- gat*, to sew.
te'e naL gat de, he sewed up. 122-13. (Pl. 44, fig. 5.)
nō na'ñ fīat, he untied it. 122-15. (Pl. 44, fig. 6.)
na he gat, he loosened. 122-14.
na hūñ a būñ, you must untie it. 78-15.
na hūñ at, you untie. 123-7.
- gats*, -*gas*, to scrape.¹⁵⁸
ō' gas, scrape. 113-7.
te' ge gats, she scraped them. 153-5.

¹⁵⁶ Hupa -*wai*, -*wa*, III, 221.¹⁵⁷ Hupa -*waL*, -*wūL*, -*wūL*, III, 222.¹⁵⁸ Cf. Hupa -*was*, III, 224.

-ge^e, to whip.

ōL ge^e, whipped? 102-9.

-gel^e, -geL, -gūL, relating to the passing of night.¹⁵⁹

gūL geL, it was getting late. (Pl. 43, fig. 1.)

tca kwōL ge^e, very dark. 127-3. (Pl. 2, fig. 4.)

ūL gūL, evening. 82-9.

-get, to thunder.

dō nai t get, it didn't thunder. 74-4.

-get, -ge, to spear.¹⁶⁰

wai te' gūn get, he struck over. 164-2.

ya' te' ōñ ge, they speared. 166-16.

-gets, -gūc, -ge^e, to look, to see.

n hōc t ge^e, let me see you. 142-6. (Pl. 43, fig. 2.)

te'ō na gūt gūc, he looked back. 87-13. (Pl. 43, fig. 4.)

te'on t gets^e, he looked at them. (Pl. 43, fig. 5.)

ō' t gūc, look at them. 100-9. (Pl. 25, fig. 13.)

ōn t gūc. look. 95-12.

-gīñ, to kill.¹⁶¹

sel giñ ya' nī, he killed they say. (Pl. 43, fig. 10.)

-gin, -gūc, -ge^e, -geL, to carry on the back.¹⁶²

te' nō dūg ge^e, we will put in water. 139-9. (Pl. 7, fig. 5; pl. 24, fig. 3; pl. 43, fig. 6.)

te'n nūg gūc, she brings in. 180-9. (Pl. 43, fig. 7.)

nī gi ne^e, I bring. 138-14. (Pl. 43, fig. 8.)

te'n nūñ fiñ, he brought it. 135-11. (Pl. 43, fig. 9.)

da n die ge^e, I will pick you up. 141-4. (Pl. 7, fig. 3.)

tūc ge^e, I will carry. 135-4. (Pl. 8, fig. 4.)

te't tes gin, he carried. 101-9.

gūc geL, I will carry. 141-1.

gūñ ei, you carry. 137-13.

-git, -gūc, to be afraid.¹⁶³

be nē sūL git de, I am getting afraid. 130-15. (Pl. 6, fig. 2; pl. 44, fig. 3.)

wūn ye nel git, they were afraid of it. 154-6.

wūn tōL gūc ōñ, might be frightened. 99-15.

-gīts, to tie.

Le gīts^e, he tied together.

tcām mē yīts, a stick he tied. 169-5. (Pl. 30, fig. 12.)

¹⁵⁹ Hupa -weL, -wil, -wīL, III, 224.

¹⁶⁰ Cf. bel get, spear head. 133-8.

¹⁶¹ Hupa -wen, -wīñ, -we, III, 225.

¹⁶² Hupa -wen, -wīñ, -wūw, -we, III, 226.

¹⁶³ III, 280.

-gûts, to bite.

be te gûts, he bit it. 109-7.

-kai, to be alive.

na kai, alive. 114-2.

-kal, -kaL, to break.

tas kal, break. 81-11.

tûc kaL, I will break. 110-1.

-kan, -ka, -kai, -kaL, relating to the passing of the night.¹⁶⁴

n hes ka nî, we spent the night. 167-7. (Pl. 44, fig. 10.)

n he ôL ka kwic, we will spend the night probably. 105-3. (Pl. 27, fig. 10.)

dô yîL kai, not day. 178-12.

yî gûL kaL, it was daylight. 105-5.

yî gûL ka lit, it got light when. 114-5.

-kan, -kac, -ka, to move a vessel containing liquid.¹⁶⁵

wa' ûñ kañ, she gave him. 129-4. (Pl. 23, fig. 3.)

kô wa kac, give him (a basket of food). (Pl. 45, fig. 1.)

Used of fishing with a net, probably the same stem.

Cf. ô' kan, net it. 168-14.

ts' gûn kan, he had caught. 120-1.

dô ya' kac, they didn't net it. 168-14.

kwa te'gûs t ka, for him they dipped. 155-7.

-kan, -kûn, to be sweet.¹⁶⁶

L kûn, is sweet. 166-11.

tâl ka mûn dja', sweet will be. 91-5.

-ke', to finish.¹⁶⁷

be nîL ke'e, I have finished. 82-15. (Pl. 23, fig. 12.)

bel ke', he finished. 172-12. (Pl. 45, fig. 3.)

be iL ke get, he finished when. 149-15.

be gec ke ge, I am finishing. 76-7.

-ke', to bathe (plural only).

na' ke', bathe. 172-14. (Pl. 45, fig. 2.)

-ket, to trade.¹⁶⁸

Le te'ôñ ket, they traded. 172-6.

-kût, to ask, to question.¹⁶⁹

dô ha' cõ dôL kût, do not ask me. 166-8. (Pl. 45, fig. 8.)

¹⁶⁴ Hupa -xa, -xal, -xâl, -xûñ, III, 250.

¹⁶⁵ Hupa -xan, -xûñ, -xauw, III, 250.

¹⁶⁶ Hupa -xan, -xûn, III, 250.

¹⁶⁷ Hupa -xe, -xû, III, 252.

¹⁶⁸ Cf. Hupa -xait, -xai, to buy, III, 251.

¹⁶⁹ Hupa -xût, -xûl, III, 252.

-kût, to travel (plural only).

te'n nûl kût, they came. 154-12. (Pl. 45, fig. 6.)

dô ha^e te't tel kût, they did not go. 167-17. (Pl. 45, fig. 7.)

-kût, to swallow.

te' gûl kût, he swallowed. 109-7. (Pl. 1, fig. 3; pl. 45, fig. 5.)

nôc kût, may I swallow you. 181-14.

kw sal kût, his mouth he put in. 157-15.

-kût, to fall.

wal kût, fell through. 158-1.

na te'ûn kût, it fell. 83-4.

-kût, -kûs, to float.

yal kût, floated. 143-7.

tel kût, were washed away. 71-7.

nô nûk kûs, it floated about. 127-8.

-k'ag, -k'a', to be fat.¹⁷⁰

L k'a' bûn dja^e, let it be fat. 85-14. (Pl. 26, fig. 10.)

L k'ag, is fat. 83-15.

-k'ai, to hit (with an arrow).¹⁷¹

nûn nel k'ai, he hit. 156-14. (Pl. 45, fig. 9.)

-k'an, to build a fire.¹⁷²

ôl k'añ, make a fire. 103-7. (Pl. 3, fig. 7.)

gûl k'an, there was a fire. 162-13. (Pl. 45, fig. 10.)

ûl k'añ, make a fire. 127-11. (Pl. 45, fig. 11.)

-k'ats, -k'as, -k'al, relating to position and movement of long objects only.

te' tûl k'as dja^e, let him drop. 129-8. (Pl. 10, fig. 4.)

ya^e gûl k'as, he threw up. 154-5.

wan t gûl k'ac, she threw up. 144-7.

nô wil k'as, fell. 152-1.

nûn ya^e L k'as, they pushed them in. 154-14.

te' gûl k'al, it fell. 154-10.

te'ûl k'al, it struck. 154-11.

-k'e^e, to brace oneself in getting up from a sitting or lying position.¹⁷³

nûn s'ûs dûk k'e^e, he got up. 98-5. (Pl. 23, fig. 10.)

nûn ûn dûk k'e^e, get up. 100-3. (Pl. 44, fig. 8.)

-k'ôts, to be sour, to be bitter.

dûñ k'ôts, sour. 139-11.

dô dûñ k'ô tcit, it is not salt because. 87-10.

¹⁷⁰ Hupa -kau, -ka, III, 202.

¹⁷¹ III, 281.

¹⁷² Cf. Hupa, wil kan nei, a fire is burning. I, 151, l. 4.

¹⁷³ Cf. Hupa -kai, -ka, III, 280.

-k'ûc, to lighten.

dō te't tûl k'ûc, it did not lighten. 74-6. (Pl. 44, fig. 9.)

-k'ûñ¹⁷⁴, to twist.

ō'k'ûñ¹⁷⁴, twist. 163-12.

na te' k'ûñ¹⁷⁴, it is writhing. 177-8.

-k'ûts, to push in.

wāL k'ûts, put in. 105-14.

nai neL k'ûts kwān, had stuck in. 158-4.

tāt ūs k'ûts, he pulled it out. 127-9.

-qal, -qal, to walk (third person only).¹⁷⁵

te' qal ya¹⁷⁵ nī, he was walking they say. 98-12. (Pl. 2, fig. 5; pl. 44, fig. 1.)

-qōt, to penetrate with a point, to spear.¹⁷⁶

te' ūs qōt, he speared. 128-13. (Pl. 8, fig. 8.)

ūñ qōt, spear it. 128-12. (Pl. 44, fig. 7.)

ūc qōt, I will spear it. 164-2.

SUFFIXES

The source of the information upon which the statement is based, the degree of probability, and the time and stage of completion are indicated by suffixes which stand after the stem of the verb. In some cases it is a matter of doubt whether these should be treated as separate words or as word parts merely. In most cases they do not seem to carry definite meaning when disjoined from the verb. Several of them are affixed to nouns and other parts of speech.

Source of Information

-e, -ē are used of facts directly observed or in which the speaker is concerned and has personal knowledge. The forms with -ē seem to be more emphatic.

be ne sīL git dī, I am becoming afraid. 130-15. (Pl. 6, fig. 2.)

be nīL ke'e, I have finished. 82-15. (Pl. 23, fig. 12.)

sī yī ne, I stand. (Pl. 25, fig. 7.)

ye s'a ne, house stands. (Pl. 28, fig. 6.)

ūc ga nē, I kill. 138-4.

na ūñ gūL 'a' ē, he put across. 134-5.

nas dūl līn nē, we have got back. 95-12. (Pl. 3, fig. 6.)

te' ōñ gī la nē, I went after. 136-10.

¹⁷⁴ Cf. k'ûñ¹⁷⁴, withes. 163-12.

¹⁷⁵ III, 284.

¹⁷⁶ III, 285.

-*ûñ gī* states the fact as undoubtedly true and directly observed but seems to indicate a degree of surprise.

te' Loi *ûñ gī*, she is making a basket. (Pl. 2, fig. 7.)

nif *yāñ kwāñ ûñ gī*, it has cleared off. 168-1. (Pl. 26, fig. 1.)

te' sin *ûñ gī*, he is standing. (Pl. 26, fig. 2.)

te't tan' *ûñ gī*, he is eating. 174-1. (Pl. 38, fig. 11.)

ya' nī, *te'in*, are in form independent verbs. The former is the regular quotative used in myths and tales and is quite indefinite as to its subject.

te' qal *ya' nī*, he was walking they say. 93-12. (Pl. 2, fig. 5.)

te' gūñ al' *ya' nī*, he chewed it they say. 109-7. (Pl. 26, fig. 4.)

kwai' la' *ya' nī*, he did it they say. (Pl. 31, fig. 3.)

na gūñ *teñl ya' nī*, he got wet they say. 126-16. (Pl. 42, fig. 3.)

sāl gīñ *ya' nī*, he killed they say. (Pl. 43, fig. 10.)

-*kwāñ* refers to acts which while not directly observed, are inferred with certainty from the nature of the evidences observed.

ka gūñ *'āl kwāñ*, they had sprung up along. 87-13. (Pl. 27, fig. 7.)

te't *teñl bñl kwāñ*, he had hung up. 176-3. (Pl. 27, fig. 8.)

te' gūñ *dac kwāñ*, he had danced. (Pl. 37, fig. 11.)

na ga *kwāñ*, he had walked. 154-12. (Pl. 42, fig. 6.)

na' *del gal kwāñ*, he had poured. 125-13. (Pl. 42, fig. 12.)

-*kwa nāñ* seems to be used with suffix -e, -ē and indicates that the evidence but not the act is directly observed.

et ei *nē kwa nāñ*, were black. 94-7.

et ga ye *kwa nāñ*, were getting white. 94-5.

ta te'ñl *ate ē kwa nāñ*, turtles have come out of water. 95-8.

te'tel *teōt ye kwa nāñ*, someone had stolen. 138-15.

-*kwūc*, -*kwic*, is used with the first person only, and denotes conjecture as to past, present, or future happenings.

añ *kwūc*, it cries I guess. 115-4.

na hūc *da kwūc*, I will go back. 137-10.

na kw nīc *t'a kwic*, I am going to sling at him. 122-14. (Pl. 40, fig. 9.)

n he *ōl ka kwic*, we will spend the night probably. 105-3. (Pl. 27, fig. 10.)

kwūn s'ūs *nōl ke' kwūc*, might track us. 142-11.

-*kwūl luc*. This suffix seems to be related to the last in both form and meaning.

ûñ *gī kwūl lūc*, is I think. 170-13.

ūs t'e *kwūl lūc ûñ*, it is done I guess. 169-1.

Modal

-*būñ* predicts the act or happening with more or less determination on the part of the speaker that it shall come to pass.

wa nân tei bûñ, it will blow through. 80-14. (Pl. 23, fig. 4.)

nai 'ai bûñ, it will be across. 85-8. (Pl. 23, fig. 8.)

kəl 'ai bûñ, it will grow up. 84-11. (Pl. 26, fig. 9.)

nô 'il bûñ, you must stay. 105-2. (Pl. 28, fig. 8.)

na cōl na bûñ, you must doctor me. 166-10. (Pl. 33, fig. 4.)

-dja^c is used of future predictions in which determination or desire on the part of the speaker that the events shall come to pass is usually evident. For this reason it occurs more frequently in the first person.

te' tōl k'as dja^c, let him drop. 129-8. (Pl. 10, fig. 4.)

te'ōl tei dja^c, let him make. 140-2. (Pl. 27, fig. 6.)

kūc na^c dja^c, I want to live. 171-7. (Pl. 27, fig. 5.)

l k'a^c bûñ dja^c, let it be fat. 85-14. (Pl. 26, fig. 10.)

a dāl le^c dja^c, we will do it. 83-2.

ōc t ge^c dja^c, I will look at. 149-13.

-teL, -tē le. The simple future prediction without an implication of duty, necessity, or intention is expressed by teL; te le is used when the information is on the speaker's authority.

te'ic t'a tē le, I will feather arrows. 156-5. (Pl. 7, fig. 9.)

nūc iñ tē le, I will look. 165-4. (Pl. 27, fig. 3.)

be nac 'ai^c tē le, I will try again. 139-1. (Pl. 27, fig. 4.)

gūl lōs tē le, he will bring it. (Pl. 32, fig. 9.)

ce dūn tē le, I will die. 177-5. (Pl. 38, fig. 9.)

nan dūl teL, are you going home? 120-13.

na hō tūn nac teL, will you move? 140-8.

nūl lin teL bûñ, will flow for. 89-5.

ūl tei tel, you will make. 139-10.

na hūn dac tel, will you go back? 137-9.

na hūc dac tē le, I will go back. 117-18.

-ūt, -hūt, when, because. This suffix subordinates the verb to which it is attached either as to time or cause as the context may require. It is confined in its use to the past. The suffix usually takes over as the initial of its syllable the final consonant of the stem. An h may be the final aspiration of the preceding stem.

ūl gūl lūt, it was evening when. 105-6.

yai nūl ti nūt, they brought it when. 128-16.

ya^c gūl k'a sit, he threw up when. 154-11.

yīl t'ō gūt, stuck him when. 156-1.

Lūn tes ya hūt, they came together when. 148-9.

na nūn la gūt, he jumped across when. 147-7.

ō dji te'ūs tūk ūt, he killed because. 157-7.

wān nī le get, I swam to because. 175-5.

naL cūl ūt, it was wet because. 126-11.

nas li^c nūt, he was tied because. 146-5.

te si ya hūt, I went because. 118-5.

Temporal

-de^c, when, if. This suffix is used of events in the future, whether certain to occur or not, fixing the time of another act or event.¹⁷⁷

- ō djisōL tāk de^c, you kill it if. 177-5.
 wūn kw nūk de^c, you tell about when. 176-2.
 naL kūt de^c, you come back if. 117-18.
 na nūL gaL de^c, when you put across. 153-11.
 na he sūn t ya de^c, if you go back. 137-10.
 ts'ūs qōt de^c, if he spears it. 128-9.
 te'nūn ya de^c, if he comes. 142-11.
 gūL gel^c de^c, night when. 97-10.
 gūn dō^c de^c, is gone if. 140-2.
 kō wūn tūn de^c, it is cold when. 172-15.
 kō te' gūL 'ūts de^c, when she runs down. 153-11.

-ūñ expresses a contingency as less certain than -de^c.

- ūc te lī^c ūñ, I might be cold(?). 133-8.
 wūn tōL gūc ūñ, might be frightened. 99-15.
 na ōn te lē^c ūñ, may come. 133-9.
 tōt būL ūñ, it may rain. 168-6.
 Cf. na nō te'ūL ke^c ū leñ^c, he might track us. 138-10.
 ta nan ō da ū leñ^c, he might come again. 135-8.

-kwa^c denotes the continuance of the act until a stated time.¹⁷⁸

- na hūc ga kwa^c, I am untying yet. 123-10.
 te'n nūn dac kwa^c, he danced until. 130-15

-l, -L suffixed to the syllable of stem is used for acts or conditions that are continuous in time or place.

- gūn yaL, walk. 104-13.
 t gūn nūL, it kept hooting. 179-7.
 tee' gūL laL,¹⁷⁹ he cried along. 145-5.

-c is used of continuous or often repeated acts. It is also found in the imperative of many verbs without its meaning being clearly manifest.

- ta cac, I went. 182-17.
 tūn yac, you go. 78-13.
 tūm mic, swim. 118-16.

-bī^c, in. This suffix common with nouns occurs with verbs with the sense of when.

- tea kwūL gel^c bī^c, very dark in. 179-8.
 tea kwūL gel^c bī^c ūñ^c, very dark in. 179-7.

¹⁷⁷ III, 321.

¹⁷⁸ Cf. Hupa -ūx, -x, III, 304.

¹⁷⁹ The stem is tee', therefore -gūllaL is an extended form or a compound suffix.

-*ûñ* is used in asking a question to be answered by yes or no.

wan 'əc *ûñ*, did you give? 137-8.

nan t ya ûñ kwən, have you come back? 132-14.

te'ûn yan ûñ kwən, you have eaten? 138-3.

-*kwan hût*, two of the suffixes presented above, when combined make a relative temporal reference to the completion of the act.

nas lifi út kwən hût, it was again because. 107-6.

te'is teiñ kwən hût, he had made when. 120-1.

te'ôl yi kwən hût, he had named when. 117-12.

te'ûs t'a kwən hût, he had feathered when. 116-12.

kě nól get kwən hût, because you were afraid. 123-12.

TENSES AND MODES

In addition to temporal and modal variations expressed by means of prefixes and suffixes discussed above there are two forms of the completed verb resulting in part from accent which have different temporal modal force associated with them. The present indefinite is usually the shorter of the two forms and is used mostly for the imperative, for intended or proposed action in the first person, and in negative statements. It might be distinguished as the non-indicative. The subject prefix of the first person singular is *c*, the second modals are usually absent, and the weaker form of the stem is usually found.

The definite tense is usually indicative in mode, referring to an act or state as existing at a definite time, usually past. It is distinguished by *i* as the subjective prefix in the first person singular, by the presence of one of the second modal prefixes, and by the stronger form of the stem. The glottal stop is so frequently found as the final element of the stem that it seems plausible that it is a morphological or phonetic characteristic of this form.

Present Indefinite

ôc lañ°, I will get. 137-2. (Pl. 24, fig. 11.)

nac be, let me swim.

cô' ôc le', I will fix it. 77-3.

túc ca°, I am going. 161-1.

ta te' ô' bûl, prepare mush (imp. plu.). 123-13. (Pl. 37, fig. 6.)

tôt bûl, let it rain. 80-12.

tô gúc bûñ, let him carry. 140-1.

Past Definite

ôn gî la ne, I brought. 137-1.

nî bî ne, I swam. 118-17.

cô' gî la ge, I am fixing it. 76-12.

te sî yai, I went. 120-17.

ta te sô' bîl°, have you cooked? 169-14.

tet bîl°, it rained. 81-1. (Pl. 36, fig. 13.)

tes gin, he carried. 101-11.

TABLE OF ANALYZED VERBS

Adverbial	Delative	Objective	1st Modal	2nd Modal (n)	Subjective	3rd Modal	Stem	Sum
	ya te'	kw	n			L	'if	
ya'				g		L	gal'	they saw him. (Pl. 25, ag. 8.)
ye'	te'			g		n	yai	he threw up. (Pl. 25, ag. 1).
wa'						n	kaf	he went in. 132-13. (Pl. 28, ag. 2).
Le			ge	s			'a'	she gave him. 129-4. (Pl. 28, ag. 3).
na			de	s			hil'	it was encircling. 82-15. (Pl. 25, ag. 6).
na	te'				ð'		Lð	he spilled. 123-2. (Pl. 28, ag. 9).
nô'		e				L	gal	set snares. 108-2. (Pl. 25, ag. 5).
nân	y					L	t'o	throw me. 133-4. (Pl. 25, ag. 1).
nân	s'			s		d	k'e'	when he stung. 156-15. (Pl. 26, ag. 8).
na	te			g		L	'a	he got up. 98-5. (Pl. 28, ag. 10).
				s	i		yin	he stood them up along. 88-13. (Pl. 26, ag. 8).
bo na					e		'ai'	I stand.
de					c		'ge	I will try again. 139-1. (Pl. 27, ag. 4).
dô			d		n		sûs	put on the fire. 127-12. (Pl. 28, ag. 15).
te'nô					d	l(L)	ge'	we did not see. 116-18. (Pl. 26, ag. 7).
	te'		ne	g		L	'if	we will put in water. 139-9. (Pl. 24, ag. 8).
	te'	kw				L	lô'	he looked at it. 156-16. (Pl. 25, ag. 12).
	te'			n		n	ya	when he fooled him. 136-14. (Pl. 26, ag. 5).
ka						l	'ai	when he came. (Pl. 26, ag. 6).
								it will grow up. 84-11. (Pl. 26, ag. 9).

INTERPRETATION OF TRACINGS

Plates 3 and 4 have nasal tracings for the upper line. These are made as follows: a glass bulb open at each end is inserted in one nostril, from the outer end of which a rubber tube passes to a tambour having a rubber membrane rather tightly stretched. To this rubber membrane a straw lever ending in a horn tracing point is attached. As long as the posterior orifices of the nostrils are closed by the velum the line will be straight, but as soon as the velum falls the tracing point rises. The tracings show that the vibrations are recorded both in the nasal consonants and nasalized vowels, when the breath passes through the nose, and in the pure vowels, when the nasal passage is closed. In the latter case the vibrations must be transmitted through the soft and hard palate.

In plates 1, 2, and 5-11 the upper line is from the larynx. A metal tube ends in a cup-shaped termination over which a sheet of thin rubber is stretched. This is applied to one side or the front of the larynx. In these tracings the attachment was in most cases to the front near the notch of the Adam's apple. The subject's neck was soft and flabby, the larynx projecting but slightly. The connection and tambour were the same as those used for nasal tracings.

In both cases the points of the tracing levers were so adjusted that vertical lines drawn with the instrument cut the two tracings at synchronous points. The error due to irregularities of the drum does not exceed a millimeter (about .02 second).

The lower line in the above mentioned plates and the tracings in the remainder of the plates are made by the air column of the breath taken from the lips by a metal mouthpiece fitting closely and transmitted by a small rubber tube to a Marey tambour. All the tracings were, with one or two exceptions, made with the same tambour with no material change in its adjustment.

Vowels and semi-vowels result in more or less elevation of the tracing point which inscribes the vibrations; these are in most cases the fundamentals not the partials of the sounds. The liquid *l* has vibrations similar to those of the vowels, but usually shows one or more deep notches at its beginning. The nasals result in straight horizontal lines at the lowest level, since no breath issues

from the mouth during the articulation. The spirants are smooth upward curves showing only the varying strength of the air-column, which is controlled by the size of the opening of the mouth passage and the lung pressure. The instrument is not delicate enough to record the agitation of the air produced by the rubbing against the opening which gives the spirants their characteristic sounds.

The stops are shown by horizontal lines of the lowest level during the period of closure, and by nearly or quite vertical lines caused by the sudden release of air at the moment of explosion. If the stop be a sonant the point immediately falls and traces the vibrations. If an aspirated surd is spoken the point continues to rise or falls slowly without marking regular vibrations. If the stop is accompanied by glottal action the points fall sharply to or below the level marked by the tracer during the closure, the vibrations beginning as it recovers from this descent.

By observing the points where the vertical lines cut the horizontal ones in plates 1-11, the exact beginning and end of sonancy and nasalization can be ascertained as regards the movements within the mouth indicated by the breath tracing. The straight horizontal line is drawn mechanically while the paper is on the drum and constitutes a time line extremely accurate, with 50 mm. equal to one second. The duration of words, syllables, individual sounds, and often their component parts may be quickly determined.

Varying elevations of the tracings of the same sound in the same word indicate changing stress. It is probable that vowels being but slightly impeded in the passage through the mouth regardless of their quality show stress. The amplitude of the vibrations in the tracings varies with both stress and pitch, since the natural period of the membrane and lever favors a certain rate of vibration which is rendered more strongly. The pitch can often be determined, relatively at least, by counting the number of vibrations in a given length of base line.

Little can be determined as to the quality of the vowels by tracings such as these.

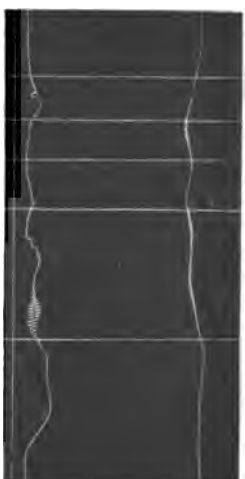
Transmitted March 1, 1911.

EXPLANATION OF PLATE 1

LATERAL SONANT AND SPIRANT

Upper line larynx, lower line breath.

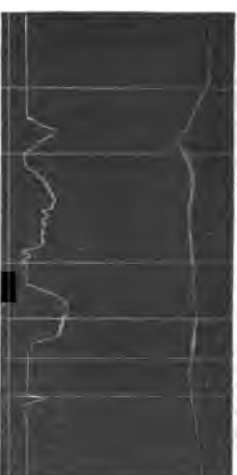
- Fig. 1.—la^ˆ nes, raccoon. 112-5.
Fig. 2.—l^ˆa cī^ˆ, buckeye. 94-6.
Fig. 3.—tc' gūl kūt, he swallowed. 109-7.
Fig. 4.—ō lañ, you get (imp.), 133-14.
Fig. 5.—kō wūn sūl, it was becoming hot. 172-14.
Fig. 6.—tc'ūs lī^ˆ, he caught in a noose. 108-4.
Fig. 7.—ka sī del^ˆ, we came up. 141-2.
Fig. 8.—na dil^ˆ, sugar-pine. 89-17.
Fig. 9.—tc'n nel yīl^ˆ, she eats up. 180-9.



1 l a e n e s



2 l e a e l e



3 t e l a n e t



4 o l u n



5 k u l a n



6 t e l a n e t



7 k a n e t



8 k a n e t



9 k a l a n e t

EXPLANATION OF PLATE 2

LATERAL SPIRANT

Upper line larynx, lower line breath.

Fig. 1.—Lôn te ge nes, "rodent ears long," a mouse.

Fig. 2.—naL tcōs, she put a blanket. 180-7.

Fig. 3.—naL^ə gī, dog. 91-9.

Fig. 4.—tea kwōL gel^ə, very dark. 74-8.

Fig. 5.—te' qaL ya' nī, he was walking they say. 93-12.

Fig. 6.—L^ə gōc, rattlesnake. 91-17.

Fig. 7.—te' Lōi ūñ gī, she is making basket.

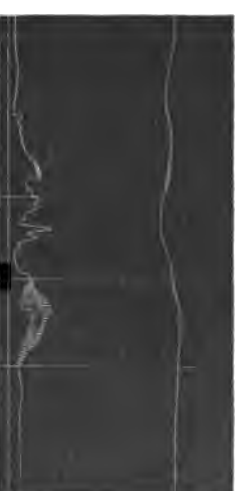
Fig. 8.—Lō' L tsō, grass blue. 76-6.



1 l o n t e g e n e s



2 n a l t e o s



3 n a l e g i



4 t e a k w o l g e l e



5 t e ' q a l y a e n i



6 l e k o e



7 t e ' l o i o o g i



8 l o ' l t s o

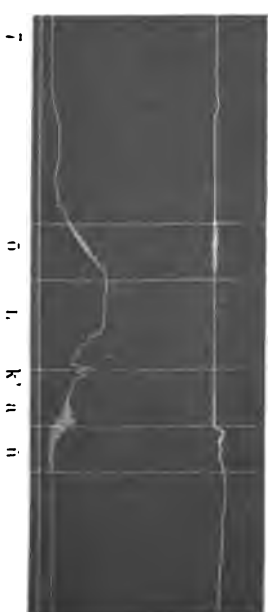
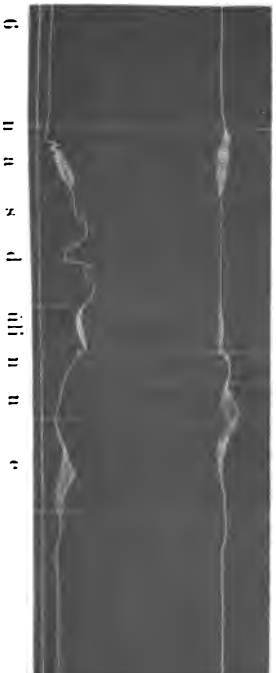
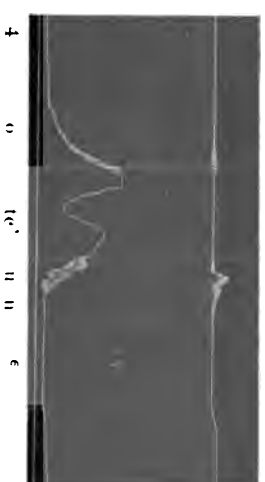
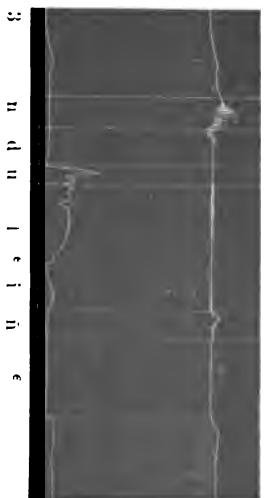
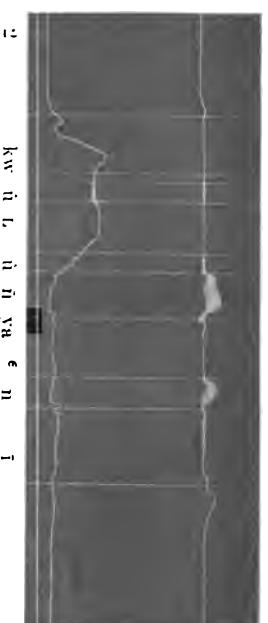
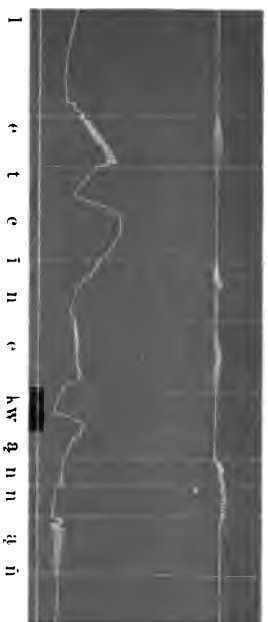


EXPLANATION OF PLATE 3

NASALS

Upper line from bulb in nostril, lower line breath.

- Fig. 1.— et ei nē kwān nāñ, it had turned black. 94-7.
Fig. 2.— kwāL ūn ya' nī, they told him they say. 125-2.
Fig. 3.— n dūl 'iñ', let us look. 168-1.
Fig. 4.— ō tē'ūñ', to him. 79-9.
Fig. 5.— nas liñ', he became. 107-8.
Fig. 6.— nas dūl lin ne, we have got back. 95-12.
Fig. 7.— ōL k'añ, make a fire (plu. imp.). 103-7.

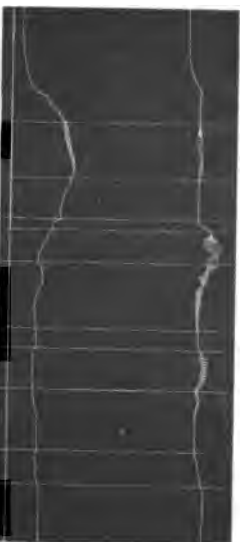


EXPLANATION OF PLATE 4

NASALS

Upper line from bulb in nostril, lower line breath.

- Fig. 1.—*ya' bi' ūñ'*, sky in. 81-2.
Fig. 2.—*wō'n tea'*, teeth large. 86-5.
Fig. 3.—*n gūn dō'*, it became none. 76-12.
Fig. 4.—*ya'n ya' nī*, they said they say. 82-11.
Fig. 5.—*kwōñ'*, fire. 81-3.
Fig. 6.—*ca'na'*, creek. 79-3.
Fig. 7.—*ne' ū nō'*, behind the hill. 164-16.
Fig. 8.—*k'īñ'*, juneberry. 133-3.
Fig. 9.—*wa te'a mī'*, hole in. 156-12.



EXPLANATION OF PLATE 5

SPIRANTS

Upper line larynx, lower line breath.

- Fig. 1.— se, stone. 71-3.
Fig. 2.— te' nes tifi, he lay down. 175-11.
Fig. 3.— wõs, leg. 79-10.
Fig. 4.— c tci', my heart. 101-5.
Fig. 5.— bec 'ai', I will try it. 109-9.
Fig. 6.— te'õ gac, let him chew it.
Fig. 7.— hakw dõfi', that time. 71-2.
Fig. 8.— ne hin nõ'si', our heads. 129-10.
Fig. 9.— yõ', scoter(?), a bird. 122-6.



1 s e



2 te' n e s t i ñ



3 w ñ s



4 e te I e



5 h e e ni e



6 te' ð k ñ e



7 h a k r d ñ ñ e



8 n e h i m ð ' m I e



9 y ð ' e

EXPLANATION OF PLATE 6

LABIAL STOP AND NASAL

Upper line of figs. 1-4, 7, larynx, of figs. 5, 6, 8, from bulb in nostril,
lower line breath.

Fig. 1.— *be cō' lōs*, take me up (plu.), 147-6.

Fig. 2.— *be ne sīL git dī*, I am afraid of. 130-15.

Fig. 3.— *t bōc*, it is round. 80-1.

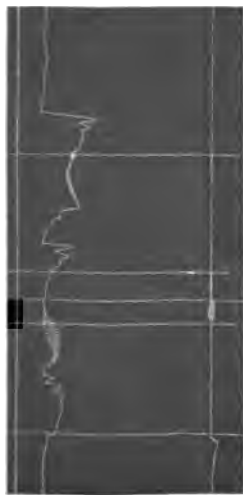
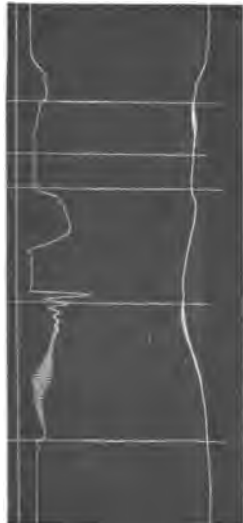
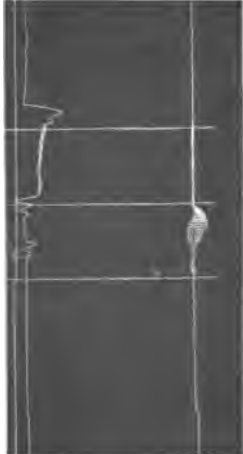
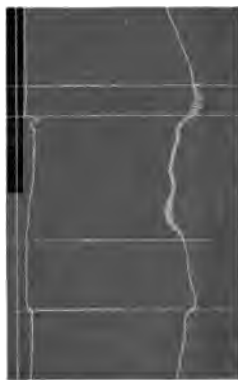
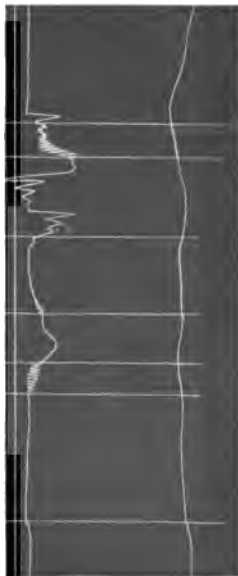
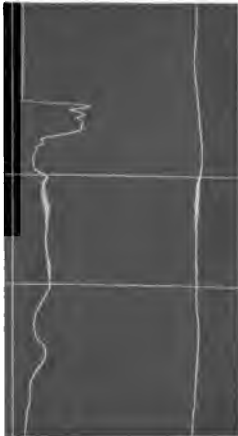
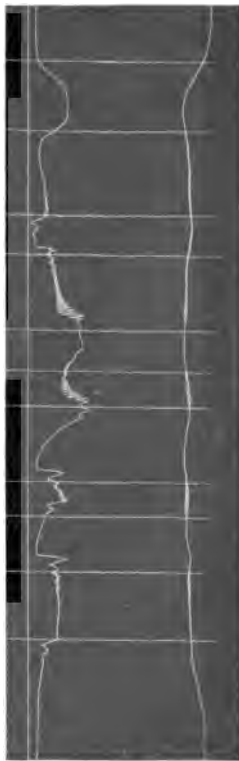
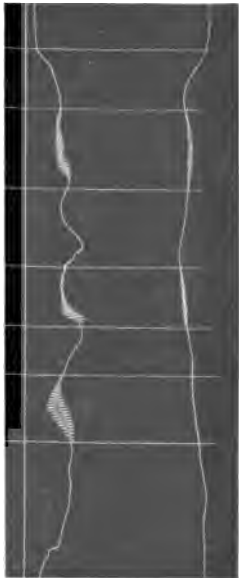
Fig. 4.— *da bes ya'*, he climbed up. 180-6.

Fig. 5.— *main*, weasel. 74-2.

Fig. 6.— *đē mūfi'*, it is full. 129-13.

Fig. 7.— *bī' sta*, he was sitting in. 132-3.

Fig. 8.— *ta tc'ūm mūL*, cook mush (imp. sing.). 163-14.



EXPLANATION OF PLATE 7

DENTAL STOPS

Upper line larynx, lower line breath.

- Fig. 1.—dō, not. 137-2.
Fig. 2.—de t gūn 'āñ, he put in the fire. 168-17.
Fig. 3.—da' n die ge', I will pick you up. 141-4.
Fig. 4.—tō, water. 71-1.
Fig. 5.—te' nō dūg ge', we will put in water. 139-9.
Fig. 6.—nō te'ūn tō', water came so far. 75-1.
Fig. 7.—t'a', feather. 105-14.
Fig. 8.—a t'a, her blanket fold. 181-9.
Fig. 9.—te'le t'a tō le, I will feather arrows. 156-5.



d o



d e t g u n e a u



d a ' n d i c k e



t' o



t' e' n o d u k e



o n o t e' u n t' o



t' u e'



x n t' n e'



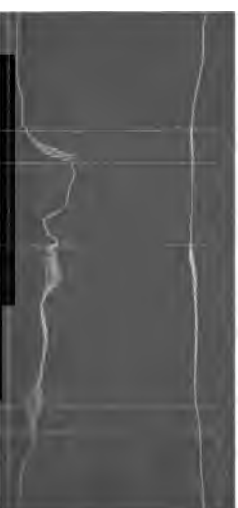
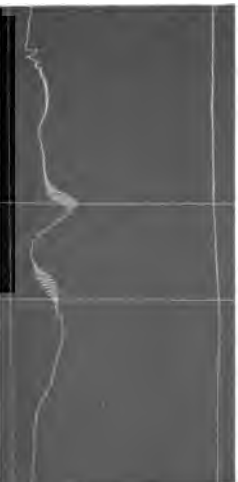
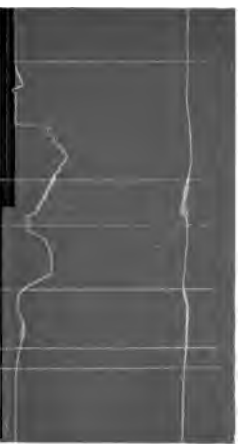
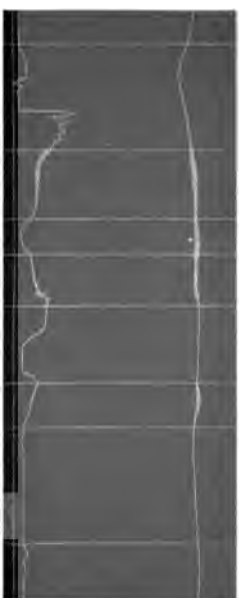
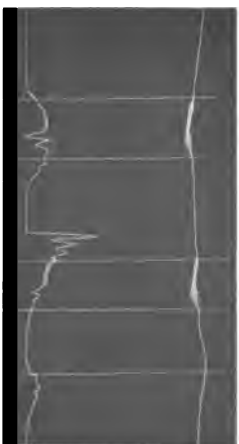
p t e' i c' t' n t' n i c'

EXPLANATION OF PLATE 8

SONANT PALATAL STOPS

Upper line larynx, lower line breath.

- Fig. 1.— gûL tûk, it burst. 182-5.
Fig. 2.— te't te gûs tei', it was about to dawn.
Fig. 3.— L tsô gûñ, fox. 73-3.
Fig. 4.— tûc ge', I will carry. 135-4.
Fig. 5.— na wô' nic, you (plu.) played. 134-17.
Fig. 6.— ûc tei ge, I cried. 140-6.
Fig. 7.— qô, worm.
Fig. 8.— te'ûs qôt, he speared it. 128-13.
Fig. 9.— kw na tas ha', without his knowledge.



EXPLANATION OF PLATE 9

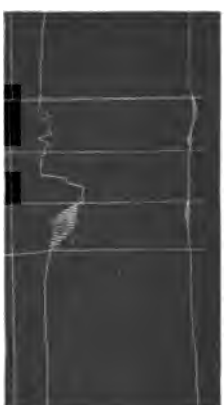
SURED PALATAL STOPS

Upper line larynx, lower line breath.

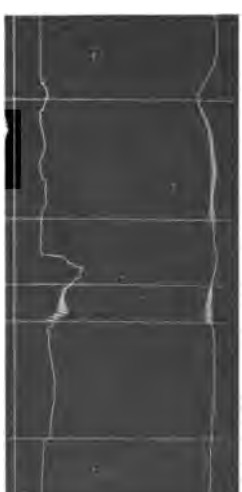
- Fig. 1.—ka l'a', it sprang up (of vegetation). 76-10.
Fig. 2.—nək ka', two. 178-4.
Fig. 3.—te' gə kūs, a boat went. 126-7.
Fig. 4.—dō kwa t'ĩñ, he never did that. 130-14.
Fig. 5.—kw nĩl iñ', he looked at him. 134-2.
Fig. 6.—k't tel teōt, he stole. 118-11.
Fig. 7.—gũl k'añ, there was a fire. 162-13.
Fig. 8.—t k'an yĩ dūk, up the ridge. 99-3.
Fig. 9.—ō tei k'wūt', on his tail. 162-14.



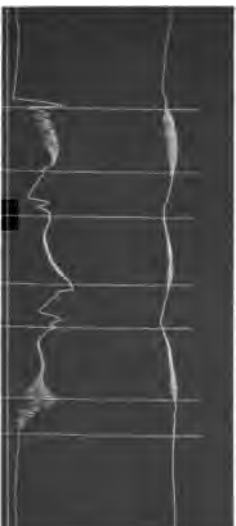
1 k' a l e a e'



2 n a k' a e'



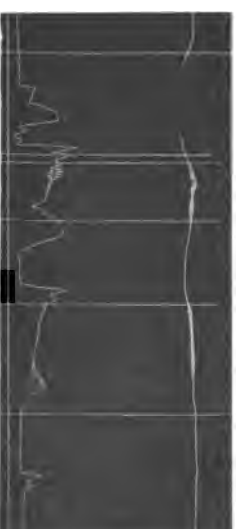
3 t e' g e' k' u s



4 d o k w a t' i u



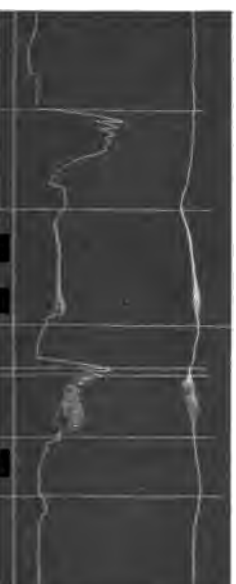
5 o k m n i l i u e'



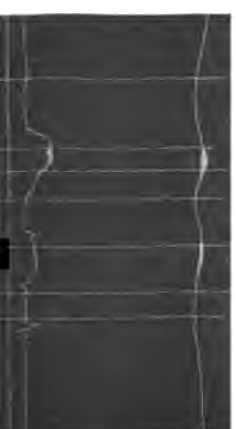
6 k' t t e l t e o t



7 g u l k' u u



8 t k' a y l d u k



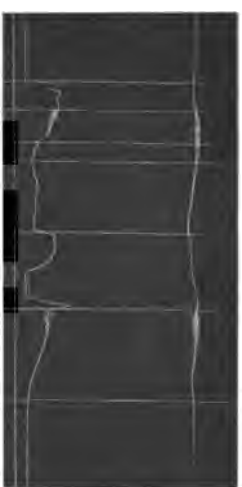
9 t e t e' k' w u t'

EXPLANATION OF PLATE 10

AFFRICATIVES

Upper line larynx, lower line breath.

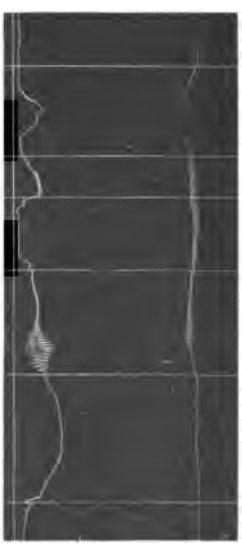
- Fig. 1.—*tən nas djöl'*, it rolled out of the fire. 147-9.
Fig. 2.—*kə na' ūl tēl*, make him live.
Fig. 3.—*tə' gūn yic*, he broke off. 79-12.
Fig. 4.—*tə' tōl k'as dja'*, let him drop. 129-8.
Fig. 5.—*na tēl*, orphan. 102-6.
Fig. 6.—*tə'e na gūt dac*, he came out again. 149-13.
Fig. 7.—*ta'dji nes tiñ*, where is he lying? 182-3.
Fig. 8.—*naL cōtc*, grass-snake. 84-5.
Fig. 9.—*ye'tə' gūn yai*, he went in. 97-11; 132-13.



1 t' a n a s d j o l e'



2 k e n a e u l t e i



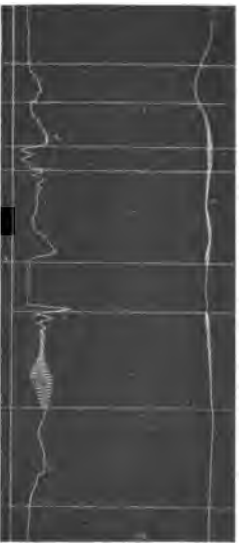
3 t e' k u n y i e'



4 t e' t' o l k' a s d j a e'



5 o n a t e u l



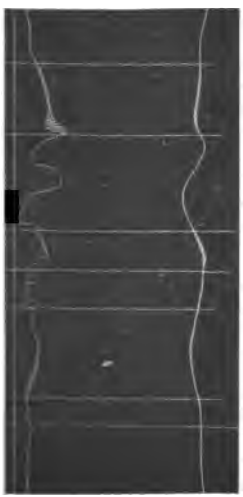
6 t e' e n a k u t d a e'



7 t' n' d j i n e n t' i u'



8 n u l e o t e'



9 y e' t' t e' k u n y n i'

EXPLANATION OF PLATE 11

MISCELLANEOUS

Upper line larynx, lower line breath.

- Fig. 1.—wakwts, one side, away from.
Fig. 2.—k'ññ', juneberry. 133-3.
Fig. 3.—waLk'ats', he put in. 105-14.
Fig. 4.—t'e', raw. 91-5.
Fig. 5.—c bñt', my stomach.
Fig. 6.—se qñt', a headdress. 176-17.
Fig. 7.—se tñ nai, stone-fish (sword-fish?). 86-1.
Fig. 8.—te'ñs t'ñk', he flaked. 156-7.
Fig. 9.—tñ ne' ññ', water behind. 126-6.



1 w u k u' t s



2 k' i u e



3 w u l k' i t s e



4 t' e e'



5 e u u t'



6 s e q u t'



7 t e t' u n ni



8 t e' u s t' u

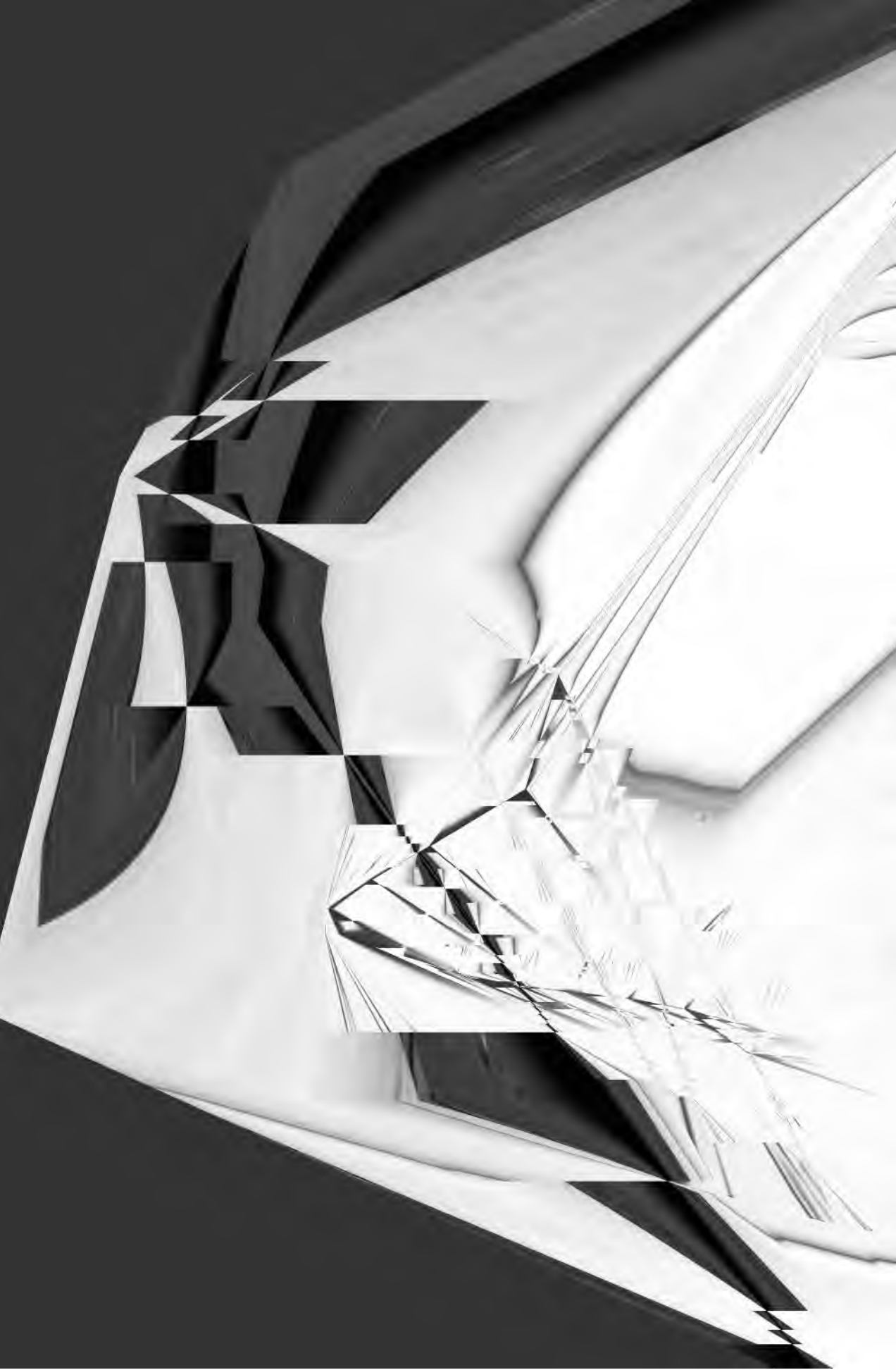


9 t' u n e u u e

EXPLANATION OF PLATE 12

MONOSYLLABIC NOUNS

- Fig. 1.—a', clouds. 74-6.
Fig. 2.—ya', sky. 77-13.
Fig. 3.—ya', louse. 152-5.
Fig. 4.—yas, snow. 74-3.
Fig. 5.—wôe, leg. 79-10.
Fig. 6.—Lôk', steel-head salmon. 84-5.
Fig. 7.—Lût, smoke. 141-2.
Fig. 8.—Lô', herb. 71-3.
Fig. 9.—se', stone. 71-3.
Fig. 10.—slûs, ground-squirrel. 73-7.
Fig. 11.—ca', sun. 74-9.
Fig. 12.—cek', sputum. 154-14.
Fig. 13.—bel, rope. 101-7.
Fig. 14.—bûs, alide of soil. 86-11.
Fig. 15.—tô, water. 71-1.
Fig. 16.—ges, salmon. 84-3.
Fig. 17.—kôs, cough.
Fig. 18.—k'ûc, alder.
Fig. 19.—k'wa', fat. 83-15.
Fig. 20.—k'ûñ', hazel. 133-10.



EXPLANATION OF PLATE 13

NOUNS WITH POSSESSIVE PREFIXES

- Fig. 1.—a t'a, her blanket fold. 181-9.
Fig. 2.—ū t'a ni, her dress. 165-6.
Fig. 3.—ū tca', her apron. 165-8.
Fig. 4.—ū sō', his tongue. 110-3.
Fig. 5.—ū na', his eye. 152-10.
Fig. 6.—ū ts'ō', her milk.
Fig. 7.—ū sūts, its hide. 110-4.
Fig. 2.—ō di ce', its shoulder. 75-1.
Fig. 9.—ū de', its horn. 74-10.
Fig. 10.—nat,' your sister. 132-4.
Fig. 11.—c te ge, my grandfather. 153-10.
Fig. 12.—c ne', my leg.
Fig. 13.—c qōt', my knee.
Fig. 14.—c dji', my heart.
Fig. 15.—steō, my grandmother. 97-16.



1 a t' a



2 ū t a n ī



3 ū t'c a



4 ū s ō



5 ū n a



6 ū t s' ō



7 ū s ū ts



8 s ō d ī e e



9 ū d e



10 n a t



11 e t'c k e



12 e n e



13 e q ō c'



14 e dī l



15 s t'c ō

EXPLANATION OF PLATE 14

NOUNS WITH POSSESSIVE PREFIXES.

- Fig. 1.—kwânt, cousin. 145-2.
Fig. 2.—cân dĩ, my cousin. 145-3.
Fig. 3.—ba dĩ, his nephew. 145-3.
Fig. 4.—kwô^c, his teeth. 181-8.
Fig. 5.—kw tei^c, his tail.
Fig. 6.—kaete, knife. 110-10.
Fig. 7.—kw da^c, his mouth. 123-2.
Fig. 8.—kw kwe^c, his foot. 82-5.
Fig. 9.—ski, boy. 102-6.
Fig. 10.—skik, children. 132-8.
Fig. 11.—o teô djil, my kidney. 133-3.
Fig. 12.—kw si^c da^c, his crown. 79-4.
Fig. 13.—s tcaite, my grandchild. 97-16.
Fig. 14.—gac teô, redwood, 86-8.
Fig. 15.—ges teô, elk. 71-5.
Fig. 16.—dûcte, quail. 72-5.



8 kwe - e -



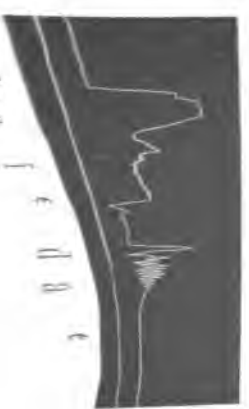
9 - k - i



10 - k - i



11 e ke o di i l



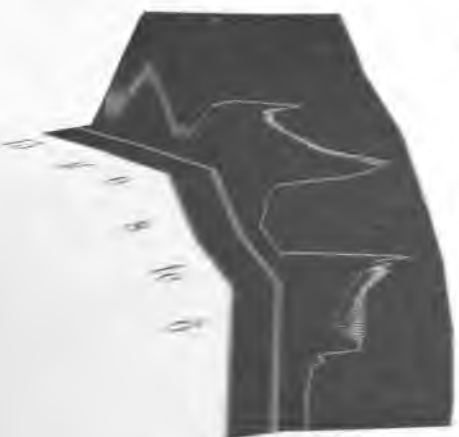
12 kwe i e d d e



13 k to ai to



14 kwe i e



EXPLANATION OF PLATE 15

NOUNS WITH SUFFIXES

- Fig. 1.—yictc, wolf. 71-6.
Fig. 2.—t kōets, chestnut. 89-8.
Fig. 3.—t kae teō, pelican. 72-13.
Fig. 4.—yī teō, dance house. 83-11.
Fig. 5.—ts'ūñ tel, turtle (bone broad). 90-14.
Fig. 6.—tcūn ta', among trees. 171-9.
Fig. 7.—ō de' L gai, its horn white. 161-16.
Fig. 8.—ya' L gai, louse white.
Fig. 9.—teil gaite, tail white. 138-12.
Fig. 10.—ges L cūñ', salmon black. 86-2.
Fig. 11.—na L cik, eye shining. 181-9.
Fig. 12.—cic bi', red earth in (a mountain). 102-15.
Fig. 13.—ye' bi' ūñ, house in. 110-15.
Fig. 14.—ye' bik, house inside. 99-5.
Fig. 15.—ya' bik, sky inside. 101-15.
Fig. 16.—būts k'ai', seagull. 122-6.



1 yí e t e



2 t k ō e ts



3 t k' a e t e ō



4 yí t e ō



5 ts' ū n t' e L



6 t e ū n t' ū



7 t ō d e ε L k a i



8 y a ε L g ū i



9 t e i l k ū i t e



10 k e s L e ū ū ε



11 n a L e i k



12 e i e b i ε



13 y e' b i ε ū ū ε



14 y e' b i k'



15 y a' b i k'



16 b ū ts k' ū i ε

EXPLANATION OF PLATE 16

NOUNS WITH SUFFIXES

- Fig. 1.— yī' tūk gūt, house middle. 142-13.
Fig. 2.— gat tēō', barnacle.
Fig. 3.— se tēits, stone rough (sand-stone). 77-9.
Fig. 4.— ne' L'ūt, world middle. 75-3.
Fig. 5.— Lūc t tēō, rotten log. 134-15.
Fig. 6.— cīñ hūt, summer time. 155-1.
Fig. 7.— ta L'ūt, ocean middle. 126-8.
Fig. 8.— wa tē'añ, hole. 78-8.
Fig. 9.— nūn ye' tag, ground under is found (bulbs). 148-8.
Fig. 10.— nal tē'ūl, white thorn. 91-14.
Fig. 11.— nal gī, dog. 91-9.
Fig. 12.— L tag, black oak. 89-17.
Fig. 13.— na nec, people. 71-7.
Fig. 14.— se k'at', grinding stone. 137-16.
Fig. 15.— nōñ k tēñ, pounded seeds. 94-4.



1 y i ' t ok k' n t



2 z a t t e o e



3 s e te' i ts



4 mo e u e n t



5 u u e t te' o



6 e i n h n t



7 t' a u e n t



8 w a te' n n



9 n n n ye' t' a o



10 n a l te' n t



11 n a l g t



12 t t a g



13 n n n e e



14 s e k' n t'



15 n o n k te' n n

EXPLANATION OF PLATE 17

POLYSYLLABIC NOUNS

- Fig. 1.— i da' kw, Wailaki or Yuki. 170-9.
Fig. 2.— na' eō k'a', robin. 72-9.
Fig. 3.— seL te'ō I, heron. 72-4.
Fig. 4.— ca'na', stream 79-3.
Fig. 5.— ban tō', ocean. 86-10.
Fig. 6.— cae dūñ, bear clover. 94-9.
Fig. 7.— be liñ, eel. 90-15.
Fig. 8.— ban teō, mussel. 84-13.
Fig. 9.— būs būnte, an owl. 92-8.
Fig. 10.— bel get, fish spear. 133-8.
Fig. 11.— bel kats, pole of fish-spear. 128-12.
Fig. 12.— būs te lō, owl. 72-2.
Fig. 13.— tūn nī, road. 78-4.
Fig. 14.— da teants, crow. 72-15.
Fig. 15.— t'e ki, girls. 111-2.



1 i d a' k u



2 n a e o k' a'



3 s e l te' o i



4 e a' n a e



5 b a n t' o e



6 e a e d u n



7 b e l i n



8 b a n te o



9 b u s b u n t e



10 b e l k e t



11 b e l k' a t s



12 b u s te l o



13 t' u n n t



14 d a te a n t s



15 t' e k' t

EXPLANATION OF PLATE 18

POLYSYLLABIC NOUNS

- Fig. 1.— *te le^c*, sack. 113-7.
Fig. 2.— *te'a la*, sun-flower. 138-6.
Fig. 3.— *te'a hal*, frog. 112-11.
Fig. 4.— *tcûn te' bac*, a bird. 72-11.
Fig. 5.— *te' kak'*, net. 84-8.
Fig. 6.— *teô bac*, poison. 163-7.
Fig. 7.— *gô ya ne^c*, stars. 74-7.
Fig. 8.— *kac kits*, old man. 108-2.
Fig. 9.— *te' si tcûn*, coyote. 72-1.
Fig. 10.— *kwi yint*, pigeon. 73-12.
Fig. 11.— *k'un ta gita*, jackrabbit. 73-6.
Fig. 12.— *l tsô gûn*, fox. 73-3.
Fig. 13.— *s taite*, cotton-tail rabbit. 155-12.
Fig. 14.— *yis kan*, day. 100-12.
Fig. 15.— *yis t'ôt'*, fog. 126-2.



EXPLANATION OF PLATE 19

NOUNS OF VERBAL ORIGIN

- Fig. 1.—na deLtc, a small pine. 88-11.
Fig. 2.—bûL gûl gûs, fire-sticks. 110-11.
Fig. 3.—ba na t'ai, post of dance-house. 130-17.
Fig. 4.—t bûL, burden basket. 179-11.
Fig. 5.—dûl kûts, fawn. 108-9.
Fig. 6.—ts'ûs nō', mountain. 71-2.
Fig. 7.—tc'n naL dūfi, adolescent girl. 109-9.
Fig. 8.—tc' ga ts'e', twine. 116-10.
Fig. 9.—teaL nī, mountain robin. 72-4.
Fig. 10.—tc' ga', basket-pan. 113-10.
Fig. 11.—tc' wōc tee', foam. 85-3.
Fig. 12.—kwûn tel bī', valley. 174-9.
Fig. 13.—teûn nûL teûnte, Lewis' woodpecker. 72-8.
Fig. 14.—be dail tcik teō, a woodpecker, "its head red large."



EXPLANATION OF PLATE 20

POLYSYLLABIC NOUNS

- Fig. 1.—ō tēf' k'wūt', its tail on. 162-14.
Fig. 2.—Lōn L gai, wood-rat, "rodent white." 73-9.
Fig. 3.—yai in tafi', mole. 96-6.
Fig. 4.—Lō' n'ai, grass game. 146-11.
Fig. 5.—ne' dūl bai, a pine. 86-13.
Fig. 6.—yō' teil 'iñ, abalone. 124-17.
Fig. 7.—ts'e k'e neets, day eel, "navel long." 91-2.
Fig. 8.—tō bût teō, water-panther. 177-13.
Fig. 9.—ne' ts li', earthquake.
Fig. 10.—tak', three. 101-4.
Fig. 11.—kwe' n telts, black-crowned night heron, "foot broad."
Fig. 12.—tō nai L tsō, blue cat-fish(?), "fish blue." 124-15.
Fig. 13.—yī ban nāk ka', seven, "beyond two." 166-1.
Fig. 14.—yō yī nūk', way south. 75-6.
Fig. 15.—dī nūk', south. 75-6.



1 t e i ε k'w ũ t'



2 l ũ n l ʒ ai



3 ya in t' a ũ ε



4 l ũ ' n ε ai '



5 n e ε d ũ l b ai



6 y ũ ε t e i l ε i ũ



7 ts' e k'e n e e t s



8 t' ũ b ũ t t e ũ



9 ne ε t' l i ε



10 t' a k'



11 k w e ε n t' e l t s



12 t' ũ n ai l ts ũ



13 y t' b n n ʒ k'a ε



14 y ũ y t' n ũ k'

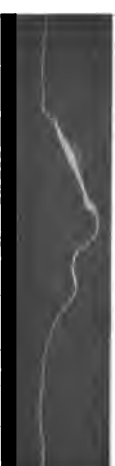


15 d l n ũ k'

EXPLANATION OF PLATE 21

ADVERBS, PARTICLES, ETC.

- Fig. 1.—e he', so it is. 173-14.
Fig. 2.—ō ye', under it. 101-6.
Fig. 3.—ō lai', its top, on it. 103-13.
Fig. 4.—ō dai', outside. 98-4.
Fig. 5.—yō yī de', way north. 77-1.
Fig. 6.—yī, right here.
Fig. 7.—yō ōñ, over there, further. 127-14.
Fig. 8.—yī bañ, other side. 133-4.
Fig. 9.—L ba' ōñ ha', both sides. 75-7.
Fig. 10.—Le ne ha', all. 83-4.
Fig. 11.—L ta' ki, different kinds. 83-1.
Fig. 12.—nūn kwī ye, underground. 75-8.
Fig. 13.—nikts, slowly. 140-16.
Fig. 14.—he ū', yes. 82-2.
Fig. 15.—ha yī, those people. 171-19.



1 e h e ε



2 ō y e ' ε



3 ō l ai ε



4 ō d ai ε



5 yō yī d e ε



6 y ī



7 y ō ō ū ε



8 yī h a ū



9 l h a ε ū ū h a ε



10 l e n o h a ε



11 l t a ' k ī



12 n ū n k' wī y e



13 n ī k ts



14 h cū ε



15 h a y ī

EXPLANATION OF PLATE 22

PRONOUNS, ADVERBS, ETC.

- Fig. 1.— *ca te'ón ge lan*, he got for me.
Fig. 2.— *cí ye' ye'*, my house. 141-6.
Fig. 3.— *cōñk kwa' lag*, he did well. 104-6; 154-5.
Fig. 4.— *ta din dji*, what for?
Fig. 5.— *dī*, this. 74-9.
Fig. 6.— *da sita*, soon. 136-5.
Fig. 7.— *ta'dji*, where? 182-3.
Fig. 8.— *dō*, not. 79-4.
Fig. 9.— *tō ō tciñ a*, water in front of. 77-7.
Fig. 10.— *kac bí'*, tomorrow. 104-9.
Fig. 11.— *k'ún dīt'*, some days ago. 137-5.
Fig. 12.— *kún dūntc*, close by. 79-6.
Fig. 13.— *k'ún dūñ*, yesterday. 128-7.
Fig. 14.— *k'at de'*, soon. 96-4.
Fig. 15.— *kwún Lāñ*, enough. 77-8.



7 k' a e b f e



8 k' a e b f e



9 k' a e b f e



10 k' a e b f e



11 k' a e b f e



12 k' a e b f e



13 k' a e b f e



14 k' a e b f e



EXPLANATION OF PLATE 23

PREFIXES OF VERBS

- Fig. 1.—*ya' gûl gal*, he threw up. 142-3.
Fig. 2.—*ye' te' gûn yai*, he went in. 132-13.
Fig. 3.—*wa' ôñ kâñ*, she gave him. 129-4.
Fig. 4.—*wa nûn tci bûñ*, it will blow through. 80-14.
Fig. 5.—*Le ges 'a'*, it was encircling. 82-15.
Fig. 6.—*na nûn dac*, come down.
Fig. 7.—*na ca'*, I go about. 133-6.
Fig. 8.—*nai 'ai bûñ*, it will be across.
Fig. 9.—*na des bîl'*, he spilled. 123-2.
Fig. 10.—*nûn s'ûs dâk k'e'*, he got up. 98-5.
Fig. 11.—*nô ga 'ac*, he put along. 86-11.
Fig. 12.—*benîl ke' e*, I have finished. 82-15.
Fig. 13.—*bě dâl*, let us climb.
Fig. 14.—*da' bes ya'*, he climbed up. 180-6.
Fig. 15.—*de dâñ 'ac*, you put on the fire. 131-9.

EXPLANATION OF PLATE 24

PREFIXES OF VERBS

- Fig. 1.— ta te'ō bŭL, make soup (plu.). 123-13.
Fig. 2.— ta gŭt t'ats, they butchered. 175-4.
Fig. 3.— te' nō dŭg ge', we will put in water. 139-9.
Fig. 4.— te'e nŭn yac, come out.
Fig. 5.— dje' gŭl teel, she split open. 129-3.
Fig. 6.— kwa nō' te, look for it. 164-11.
Fig. 7.— ka nac, it came up. 81-2.
Fig. 8.— kwŭn ye' gŭl lat, it sank. 174-12.
Fig. 9.— kwŭt te' gŭn yai, he went down. 116-5.
Fig. 10.— ne sŏL yañ, you (plu.) ate up. 136-16.
Fig. 11.— ōc lañ', I will get. 137-2.
Fig. 12.— na dic tca, let me eat a meal.
Fig. 13.— dō kō gis iñ, one couldn't see. 81-1.
Fig. 14.— te't tel bañ, he walked lame. 133-6.
Fig. 15.— dī kwa' L siñ, he did this way. 79-12.



10 0 0 8 0 4 5 0 0

11

0 0 1 0 0 0

12 0 0 0 0 0 0 0



0 0 1 0 0 0

14 0 0 1 0 0 0 0 0

15 0 1 0 0 0 0 0 0



EXPLANATION OF PLATE 25

VERBAL PREFIXES, SUBJECTIVES AND OBJECTIVES

- Fig. 1.— *nō' cūl gal*, throw me. 133-4.
Fig. 2.— *ne 'ō dūñ*, you will die. 177-4.
Fig. 3.— *ya' te' kw neL iñ'*, they saw him.
Fig. 4.— *te'e nō' nūñ a ne*, he killed us. 117-6.
Fig. 5.— *na te'ō' Lō*, set snares (plu. imp.). 108-2.
Fig. 6.— *te' nūn yai*, he came there. 142-14.
Fig. 7.— *ai yi ne*, I stand.
Fig. 8.— *gūn nes*, it became long. 87-1.
Fig. 9.— *gūt te'añ'*, he shot. 110-13.
Fig. 10.— *gūl teat*, he shouted. 165-9.
Fig. 11.— *ka' dūt tea'*, well, let us bury. 149-7.
Fig. 12.— *te'n ne gūL 'iñ*, he looked at it. 156-16.
Fig. 13.— *ō't gūc*, look at them. 164-9.
Fig. 14.— *te' kūn nec*, he talked. 160-1.

1881
1882
1883
1884
1885
1886
1887
1888
1889
1890
1891
1892
1893
1894
1895
1896
1897
1898
1899
1900

1901
1902
1903
1904
1905
1906
1907
1908
1909
1910
1911
1912
1913
1914
1915
1916
1917
1918
1919
1920

1921
1922
1923
1924
1925
1926
1927
1928
1929
1930
1931
1932
1933
1934
1935
1936
1937
1938
1939
1940

EXPLANATION OF PLATE 26

VERBAL SUFFIXES

- Fig. 1.—*nin yañ kwañ ûñ gĩ*, it has cleared off. 168-1.
Fig. 2.—*te'siñ ûñ gĩ*, he is standing.
Fig. 3.—*nûn yiL t'ô gûť*, when he stung. 156-15.
Fig. 4.—*te' gûñ al' ya' nĩ*, he chewed it they say. 109-7.
Fig. 5.—*te' kwL lõ 'ûť*, when he fooled them. 136-14.
Fig. 6.—*te' nûn ya hûť*, when he came.
Fig. 7.—*dô dûl sûs* he, we did not see. 116-18.
Fig. 8.—*na te gûL 'aL*, he stood them up along. 88-13.
Fig. 9.—*kạl 'ai bûñ*, it will grow up. 84-11.
Fig. 10.—*L k'a' bûn dja'*, let it be fat. 85-14.



1 n i ñ y ð ñ k' w ð ñ ù ñ ð i



3 n ù n y i l t' ò ð ù t



5 t e' k w l ò e ù t



7 d ò d ù l s ù s h e



9 k ð l e' n i b ù ñ



2 t e' s i n ù ñ ð i



4 t e' ð ù ñ a l y' a' n i



6 t e' n ù n y' a h ù t



8 n a t e' ð ù l e' ð l



10 l k' a' b ù n d j a e

EXPLANATION OF PLATE 27

SUFFIXES OF VERBS

- Fig. 1.—*níh yan de'*, when it cleared off. 167-17.
Fig. 2.—*kwún tel tē lit*, it was becoming flat. 107-3.
Fig. 3.—*núc hñ' tē le*, I will look. 165-4.
Fig. 4.—*be nac 'ai' tē le*, I will try it again. 139-1.
Fig. 5.—*kúc na' dja'*, I want to live. 171-7.
Fig. 6.—*te'ōL tel dja'*, let him make. 140-2.
Fig. 7.—*ka gūL 'qL kwañ*, they had sprung up along. 87-13.
Fig. 8.—*te' tel būL kwañ*, he had hung up. 176-3.
Fig. 9.—*nes ya nē kwa nāñ*, they were ripe. 94-4.
Fig. 10.—*n he ōL ka kwic*, we will spend the night probably. 105-3.



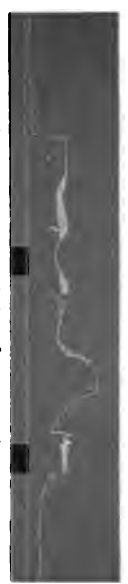
1 n i n̄ y a n d e ɛ



3 n ũ e i n̄ t' ẽ l e



5 k u e n a ɛ dʒ a ɛ



7 k' u ɛ ũ l ɛ ŋ l kwɛ ũ



9 n e s y a n n̄ ẽ k w a n q ũ



2 kw ũ n t' e l t' ẽ l i t



4 b e n a e ɛ n̄ ɛ t' ẽ l e



6 tɕ' ũ l tɕ' i dʒ a ɛ



8 tɕ' t' e l b ũ l k w ũ ũ



10 n h e ũ l k' a kw i e

EXPLANATION OF PLATE 28

VERBAL STEMS

- Fig. 1.— *nən dól 'a'*, let us make a dam. 163-11.
Fig. 2.— *na t gól 'a'*, he stood it up. 76-6.
Fig. 3.— *na nún 'ai'*, a fish-weir. 133-9.
Fig. 4.— *dí 'ún es 'a'*, up there in a row. 109-10.
Fig. 5.— *be yal 'ai'*, they tried it. 85-2.
Fig. 6.— *ye' s'a ne*, house stands. 141-5.
Fig. 7.— *nó' 'ac nō híñ*, put, you (plu.). 110-11.
Fig. 8.— *nó' 'íl bññ*, you must stay (plu.). 105-2.
Fig. 9.— *te' nún 'il'*, they sat down. 170-8.
Fig. 10.— *núc 'i ne*, I saw it. 137-1.
Fig. 11.— *n dól 'ín'*, let us look. 168-1.
Fig. 12.— *kwac 'i ne*, I always do that.
Fig. 13.— *nō híñ kwa' lín'*, you (plu.) do that. 113-4.



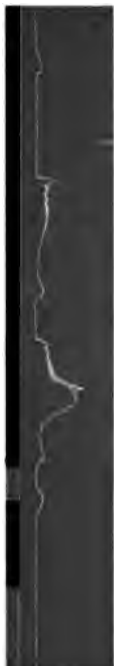
1 n ũ n d ũ l ε a ε



2 n a t' ɣ ũ l ε a ε



3 na n ũ n ε a i



4 d l ε ũ n e s ε a ε



5 ũ b e ɣ a l ε a i ε



6 y e ' s ε a n e



7 n ũ ' ε a e n ũ h i n



8 n ũ ' ε i l h ũ n



9 t e' n ũ n ε i l ε



10 n ũ e ε i n e



11 n d ũ l ε i n ε



12 k w ũ e ε i n e

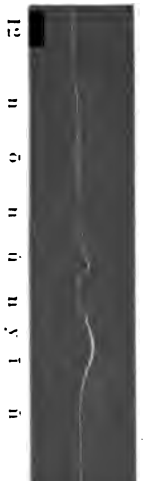
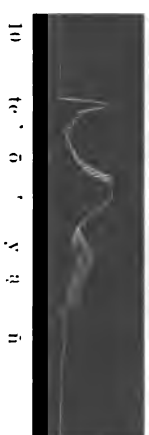
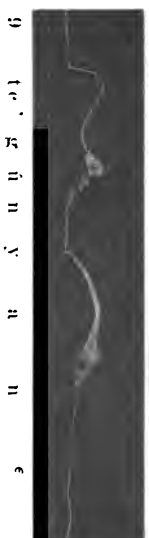
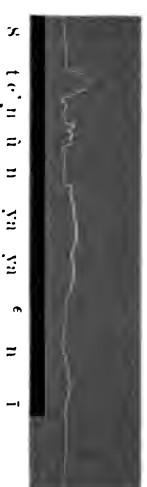
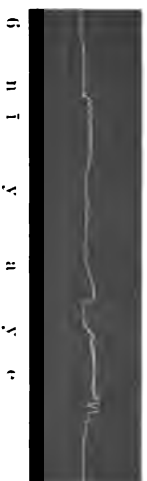
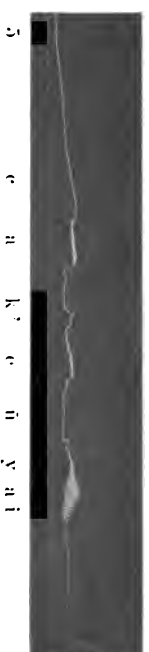
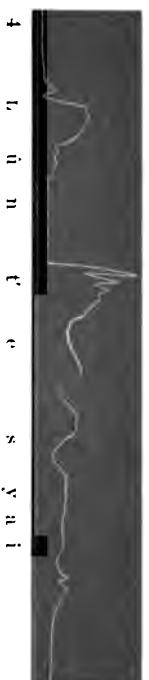
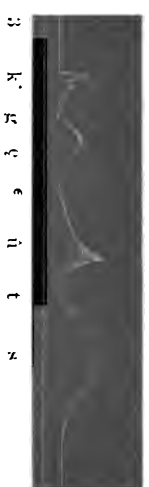
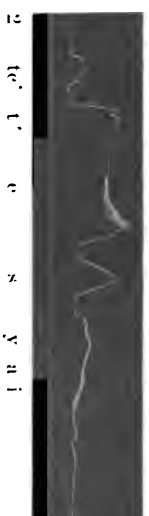
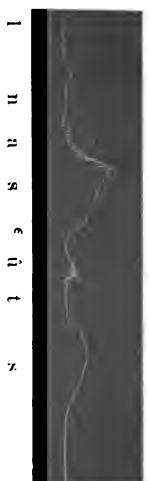


13 n ũ h i n k w a ' l i n ε

EXPLANATION OF PLATE 29

VERBAL STEMS

- Fig. 1.—nas 'ûts, he ran about. 134-3.
Fig. 2.—te' tes yai, he went. 116-9.
Fig. 3.—k' gę 'ûts, he was shooting along. 144-10.
Fig. 4.—Lûn tes yai, they came together.
Fig. 5.—ca k' eñ yai, sun went down.
Fig. 6.—ni ya ye, I came there. 136-17.
Fig. 7.—c gi yal, I am sleepy. 164-4.
Fig. 8.—te' nûn ya ya' nî, he came there they say. 101-10.
Fig. 9.—te' gûn yan', he ate of it. 129-5.
Fig. 10.—te' ô' yañ, you (plu.) eat. 148-6.
Fig. 11.—te' gûn yal, walk (sing. imp.).
Fig. 12.—nô nûn yîñ, they were living. 160-12.
Fig. 13.—te' ûn yañ, you eat (sing. imp.). 125-7.
Fig. 14.—te' t deñ ñel', he stopped crying. 148-4.



EXPLANATION OF PLATE 30

VERBAL STEMS

- Fig. 1.—*dō s dji' kw ya nē*, I do not like him. 136-13.
Fig. 2.—*dō ha' ka nōn t yañ*, do not be ashamed. 141-8.
Fig. 3.—*bûl te' gût yĩñ*, he doctored.
Fig. 4.—*na' gis yitc*, he rested. 161-4.
Fig. 5.—*na dûl yic*, let us rest. 140-18.
Fig. 6.—*wûñ gût t yac*, some become old. 107-11.
Fig. 7.—*kwôL yic*, he whistled.
Fig. 8.—*ûc yit*, I will make a house. 168-6.
Fig. 9.—*s'ûs yĩ'*, he made a house. 168-7.
Fig. 10.—*gûl yĩ' ya' nĩ*, he built a house they say. 83-11.
Fig. 11.—*te'n nōL yôL*, let it blow. 80-13.
Fig. 12.—*teûmmel yits*, a stick he tied. 169-5.
Fig. 13.—*kwûn tin yôt*, they ran after him.



1 d o s d j i e k o r y a n e



2 d o h a e k' a n o' n t y q n



3 b n l t e' g u t t y i n



4 n a e g i s y i t e



5 n a d u l y i e



6 w u n g u t t y a e



7 k w o l y i e



8 n e y i t



9 s' n s y i k'



10 g u l y i e y a e n i



11 t e' n n o l y o l



12 t e' n m m e l y i t s



13 k' w u n t' i n y o t

EXPLANATION OF PLATE 31

VERBAL STEMS

- Fig. 1.—ka na gũl lăc, she digs out.
Fig. 2.—(ũ) na^c tē'e na lai, her eye she took out. 152-9.
Fig. 3.—kwai^c la^c ya^c nĩ, he did it they say.
Fig. 4.—dĩ kwa^c lăc, he did this way. 154-5.
Fig. 5.—cō^c gĩ la cē, I fixed it good. 76-12.
Fig. 6.—bel get k'wũn nō' lăc, spear point put it on (pl. imp.). 133-8.
Fig. 7.—k'wũn nũl lũc, put it on (sing. imp.).
Fig. 8.—n tō lăL, let him sleep.
Fig. 9.—cō^c ōc lē^c, I will fix good. 77-3.
Fig. 10.—n tes laL ya^c nĩ, he went to sleep they say. 83-4.
Fig. 11.—nō hin n tō' lăL, you (plu.) go to sleep. 110-16.



1 k' a n a ɛ ŋ l l ŋ e



2 n a ɛ tɕ' e n a l ai



3 kw a i ɛ l a ' y a ɛ n i



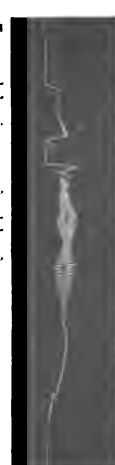
4 d i kw a ɛ l a ɔ



5 ɔ e ŋ ɛ ɛ i l a ɛ e



6 b e l ɛ e t k'wɪn ŋ ɛ l ŋ e



7 t k'wɪn ŋ l l ŋ e



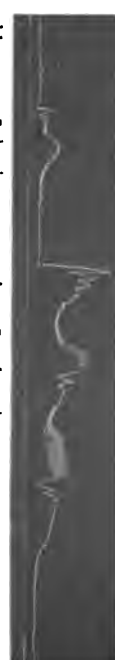
8 k n t' ŋ l ŋ l



9 ɟ e ŋ ɛ ŋ e l e '



10 t n t' e s l a l y a ɛ n i



11 t n ŋ h i n n t' ŋ ' l ŋ l

EXPLANATION OF PLATE 32

VERBAL STEMS

- Fig. 1.—*tc'el le'*, he sang. 149-11.
Fig. 2.—*na gûl leq*, fish were swimming down. 128-12.
Fig. 3.—*s'ûs lif'*, he became. 84-11.
Fig. 4.—*tc'e gûl le'*, he commenced singing. 105-11.
Fig. 5.—*ka kô si le*, I am sick.
Fig. 6.—*nas li'*, he tied up. 145-7.
Fig. 7.—*tc'ûs li'*, he caught in a noose. 108-4.
Fig. 8.—*gûl lût*, it was burning. 173-16.
Fig. 9.—*gûl lôs tē le*, you will bring. 136-5.
Fig. 10.—*tc't te lôs*, pulled repeatedly. 175-2.
Fig. 11.—*wan tc' kô lûk*, he told about it. 161-18.
Fig. 12.—*tal lōns*, soft. 179-12.
Fig. 13.—*kwûl lûe ûñ gi*, it looks like. 170-14.



1 t'e' e l e



2 n a g u l l e a



3 s' u s l i n e



4 t'e' e g u l l e e



5 k' a k o s t l e



6 n a s l t e



7 t'e' a s l t e



8 g u l l u t



9 g u l l o s t e l e



10 t'e' t t' e l o s



11 w u n t e' k' o l u k



12 t' a l l o n s



13 k' w u l l u e n n k t

EXPLANATION OF PLATE 33

VERBAL STEMS

- Fig. 1.—*tc'gel na'*, he roasted.
Fig. 2.—*bec na'*, I will roast. 168-16.
Fig. 3.—*kûc na'*, I want to live. 182-5.
Fig. 4.—*na cõL na bûñ*, you must examine me. 166-10.
Fig. 5.—*ta ya' õ nãñ*, let them drink. 123-6.
Fig. 6.—*tc't tûg gûn nĩ*, it makes a noise.
Fig. 7.—*tc't tûg gûn nĩ*, it thundered. 77-10.
Fig. 8.—*ka gûn nạc*, he came up. 75-2.
Fig. 9.—*he ù' tc'n nĩ*, yes he said. 82-2; 102-8.
Fig. 10.—*gûn Lãñ*, became many. 83-14.
Fig. 11.—*gûn Lã ne*, have become many. 169-10.



EXPLANATION OF PLATE 34

VERBAL STEMS

- Fig. 1.— *bí nō' lē'*, soak them (imp. plu.). 110-6.
Fig. 2.— *bí nō gūL lēk*, they soaked them. 179-1.
Fig. 3.— *na nūn lāt*, jump across. (imp. sing.).
Fig. 4.— *tē'e nan lā*, he ran out. 142-6.
Fig. 5.— *n lūts*, it is stout. 78-12.
Fig. 6.— *tē'ūL tsan*, he found. 97-4.
Fig. 7.— (*dō ha'*) *tē'ūL tsa ne*, he did not find.
Fig. 8.— *gūL tsai*, it was dry. 123-4.
Fig. 9.— *dō gūL san*, it was never found. 179-6.
Fig. 10.— *nūn sāt*, sit down (sing. imp.). 140-18.
Fig. 11.— *kwūn sat*, deep water. 74-10.



1 b i n o ' L e '



2 n a n u n L a t



3 n L u ts'



6 te' u L ts q n



2 b i n o g u L e k

4 te' e n a n L a



7 te'u L ts a n n e



8 k u L ts a i



9 d o g u l s a n



10 n u n s q t



11 k' w u n s a t

EXPLANATION OF PLATE 35

VERBAL STEMS

- Fig. 1.—*ně sll*, I am sweaty.
Fig. 2.—*dál tsò*, blue. 113-13.
Fig. 3.—*be nò' sũñ*, you hide (plu. imp.). 113-4.
Fig. 4.—*te' tel sũñ*, he hung up. 176-13.
Fig. 5.—*dò kw ne sũñ*, I was insensible. 182-17.
Fig. 6.—*tat dũl sũs*, we dragged out.
Fig. 7.—*te' gũn sũt*, he pounded up. 80-5.
Fig. 8.—*ũs sũt*, I will pound. 110-3.
Fig. 9.—*k' gũn sũt*, she pounded. 135-9.
Fig. 10.—*na ca'*, I go about. 133-6.
Fig. 11.—*te' gũn cai*, she buried in ashes. 129-2.
Fig. 12.—*k'wũt te'e ya ce'*, they spit on. 154-14.
Fig. 13.—*ka te' gũc cĩ'*, they dug. 148-11.
Fig. 14.—*ka te' gũn cĩ'*, they were digging. 148-8.



EXPLANATION OF PLATE 36

VERBAL STEMS

- Fig. 1.— n cōn ne, it is good. 77-4.
Fig. 2.— nL cūfi', black. 86-2.
Fig. 3.— gūL cūfi', it smells good.
Fig. 4.— kwa gūt tēūt', they fed her. 151-15.
Fig. 5.— dō naL ban ne, he was not lame. 134-5.
Fig. 6.— dō yī he' e, I am tired. 98-1.
Fig. 7.— nīfi dōfi he' ūfi, are you tired (sing.). 141-1.
Fig. 8.— dō yī de he' e, we are tired. 116-17.
Fig. 9.— nō hīfi na' be, swim (plu. imp.). 111-2.
Fig. 10.— ya' te' be, they were picking.
Fig. 11.— t bōe, round. 80-1.
Fig. 12.— cōfi k tūt bōl, well it rains. 74-4.
Fig. 13.— te t bōl', it rained. 81-1.



EXPLANATION OF PLATE 37

VERBAL STEMS

- Fig. 1.— *de mûfi'* (*din bûfi'*), it was full. 129-12.
Fig. 2.— *te't teL bûl*, he hung it up.
Fig. 3.— *tûc bûl*, I will hang up. 115-6.
Fig. 4.— *te' wô' bûL*, carry it (plu. imp.). 110-15.
Fig. 5.— *ta te'ûm mûL*, cook mush (sing. imp.). 163-14.
Fig. 6.— *ta te'ô' bûL*, cook mush (plu. imp.). 123-13.
Fig. 7.— *sûn da*, you stay (sing. imp.). 79-7.
Fig. 8.— *te'n nes dai*, he sat down. 161-10.
Fig. 9.— *nûc dac*, I will dance. 103-9.
Fig. 10.— *te'e na gût dac*, he came out again. 149-13.
Fig. 11.— *te' gûn dac kwañ*, he had danced.
Fig. 12.— *ka si del'*, we came up. 141-2.
Fig. 13.— *Le ne' ha' te'n nûn del'*, all came up.



EXPLANATION OF PLATE 38

VERBAL STEMS

- Fig. 1.— *tc't tes dō le*, they went on. 108-12.
Fig. 2.— *tī dūL*, let us go. 141-6.
Fig. 3.— *te' na tc'ūL deG*, she washed them.
Fig. 4.— *cūn dī ne*, the sun shines. 182-13.
Fig. 5.— *n dō' būñ*, it will not be. 80-13.
Fig. 6.— *n dō' ye*, there is none. 109-1.
Fig. 7.— *ce dūn ne*, I died.
Fig. 8.— *tc'ūL dūk*, crack them (sing. imp.). 138-2.
Fig. 9.— *ce e dūn tō le*, I will die. 177-5.
Fig. 10.— *te' tc' gūn tal'*, he stepped in water.
Fig. 11.— *tc't tañ 'ūñ gī*, he is eating. 174-1.



EXPLANATION OF PLATE 39

VERBAL STEMS

- Fig. 1.—ka kw nō'te, look for him. 160-1.
Fig. 2.—de dic tǎñ, I put in the fire.
Fig. 3.—be gūn teg, he taught. 122-11.
Fig. 4.—tein nō' nūn tīc, hide yourself (sing.).
Fig. 5.—nes tīñ, it is lying. 182-3.
Fig. 6.—nō'tic, put it (plu. imp.). 168-13.
Fig. 7.—nūn s'ūs tīñ, he picked him up. 179-14.
Fig. 8.—tǎn nas tīñ, she took out again. 129-2.
Fig. 9.—cī sī tī ne, I lay. 175-16.
Fig. 10.—nō nīL tī ne, he put it.
Fig. 11.—na te'ōL tōñ', he snapped it



1 k' a k' n ō ' t e



2 d e d i e t ū ũ



3 h e ɣ ũ n t' e ɣ



4 tci m ō ε n ũ n t' i e



5 n e s t' i ũ



6 n ō ' t i e



7 n ũ n s' ũ s t i ũ



8 t' ū n a s t' i ũ



9 e i s i t' i n e



10 n ō n i l t' i n e

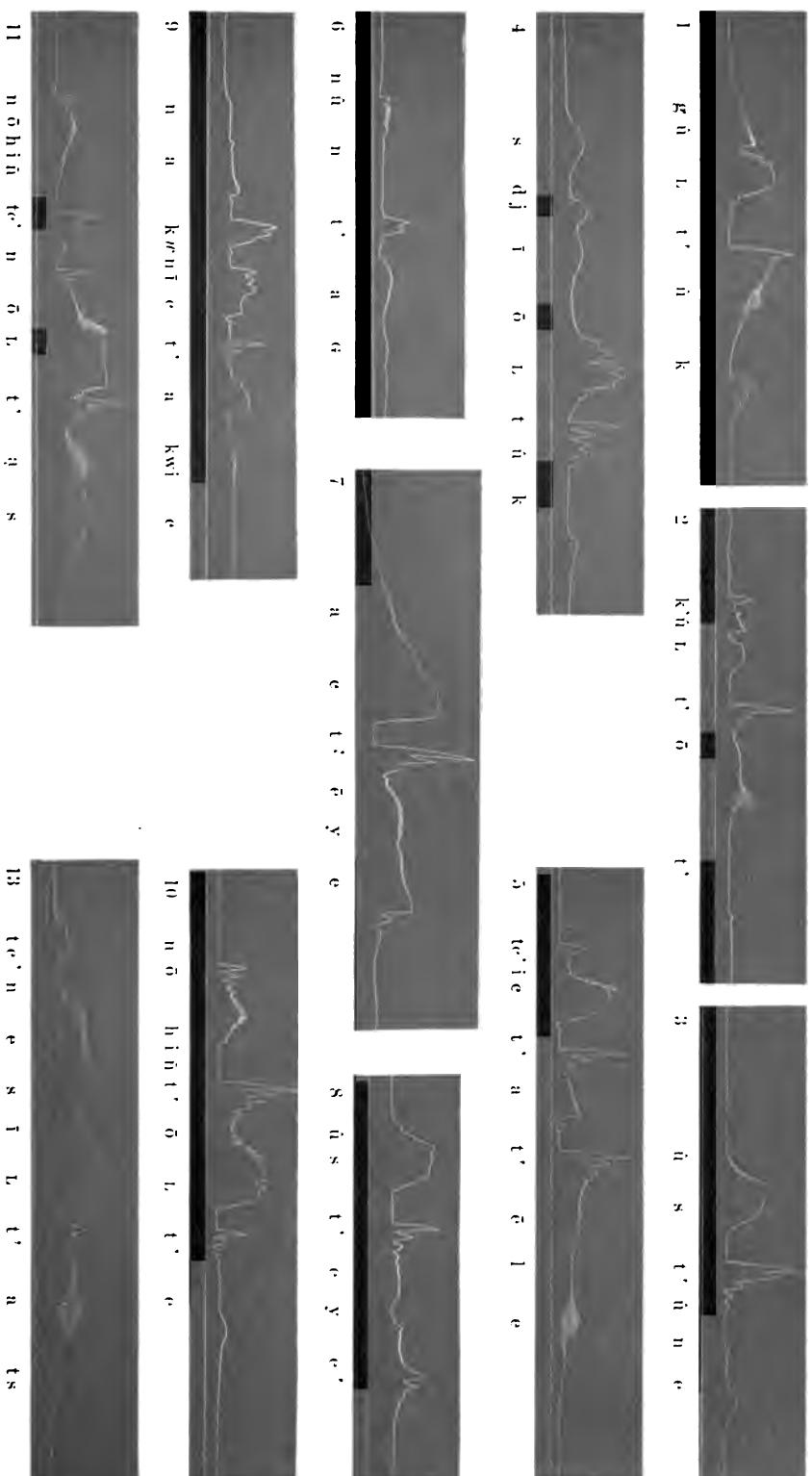


11 n a t' e' ō l t ō ũ ε

EXPLANATION OF PLATE 40

VERBAL STEMS

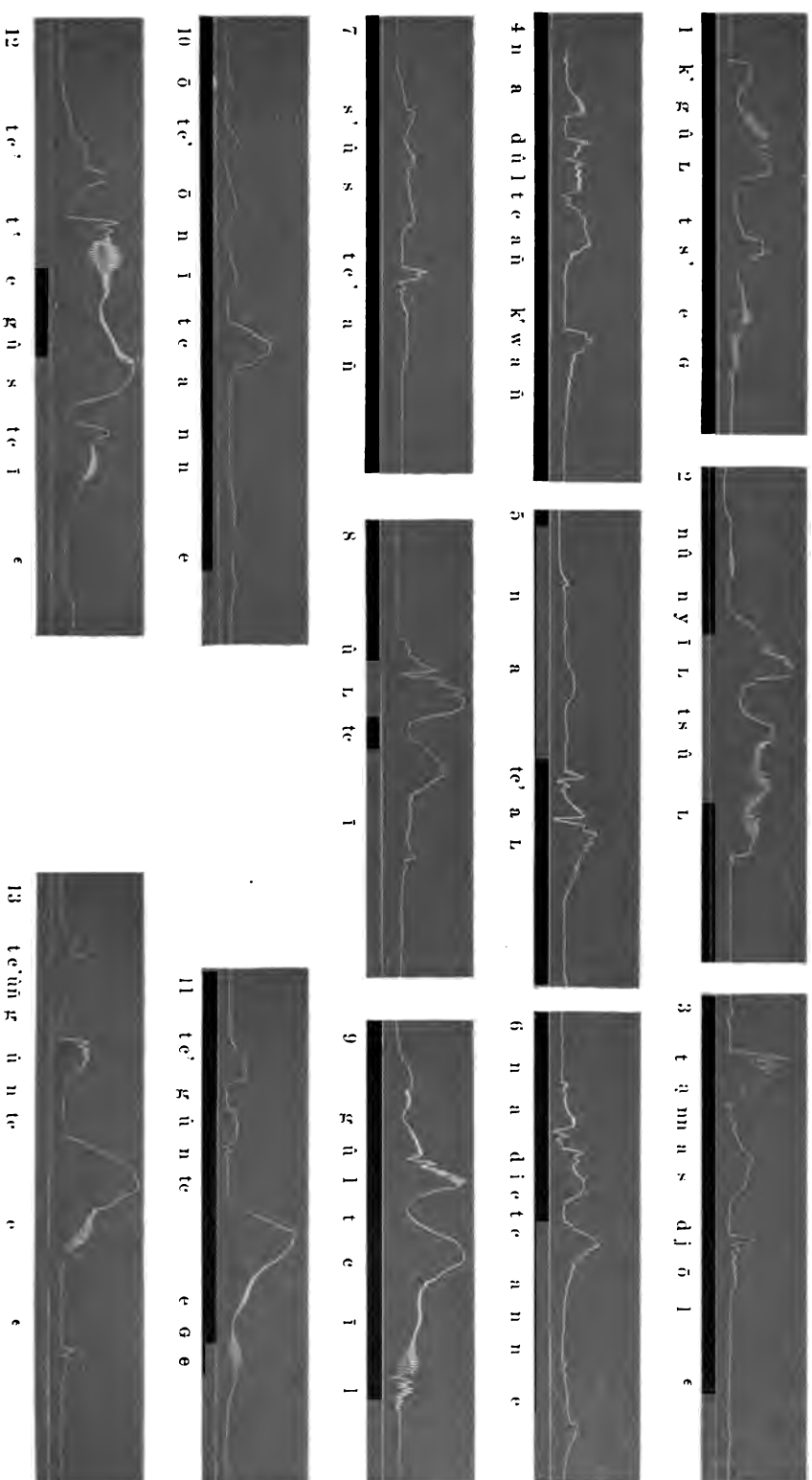
- Fig. 1.—*gûl tâk*, it burst. 182-5.
Fig. 2.—*k'ûl t'ôt'*, he sucked it. 159-2.
Fig. 3.—*ûs tân e*, it is cold.
Fig. 4.—*s djî ôl tâk*, kill me (plu. imp.). 151-8.
Fig. 5.—*te'ic t'a tôle*, I will feather. 156-5.
Fig. 6.—*nûn t'ac*, it flew. 182-11.
Fig. 7.—*ac t'e ye*, I am.
Fig. 8.—*ûs t'e ye'*, it is cooked. 163-15.
Fig. 9.—*na kw nie t'a kwie*, I am going to sling at him. 122-14.
Fig. 10.—*nô hif tôle t'e*, you cook (plu. imp.). 167-16.
Fig. 11.—*nô hif te'n nôl t'as*, you cut them (plu. imp.). 166-15.
Fig. 12.—*te'n ne sîl t'ats*, I cut it up. 138-15.



EXPLANATION OF PLATE 41

VERBAL STEMS

- Fig. 1.—k' gŭl ts'eg, he ate soup.
Fig. 2.—nŭn yŭl tsŭl, it beat against. 86-12.
Fig. 3.—tən nas djöl', he rolled out of fire. 147-9.
Fig. 4.—na dŭl tcaŋ kwaŋ, he had eaten.
Fig. 5.—na tc'al, he was chewing. 143-3.
Fig. 6.—na dic tcan ne, I ate. 171-9.
Fig. 7.—s'ŭs tc'aŋ, he shot it.
Fig. 8.—ŭl tci, make it. 79-8.
Fig. 9.—tc'gŭl teil, he kept making. 144-8.
Fig. 10.—ō tc'ō nŭ tca ne, I left him. 117-17.
Fig. 11.—tc' gŭn tee ge, he cried.
Fig. 12.—tc'te gŭs tci', nearly daylight.
Fig. 13.—tc'ŭŋ gŭn tee', he was angry.



EXPLANATION OF PLATE 42

VERBAL STEMS

- Fig. 1.— *ci te sɪL teöl'*, I stole.
- Fig. 2.— *gũl tcũt*, he caught them.
- Fig. 3.— *na gũL tcũL ya' nĩ*, he got wet they say. 126-16.
- Fig. 4.— *te'eL tcũt*, stretch it out (sing. imp.). 77-13.
- Fig. 5.— *te'eL teĩ' ya' nĩ*, he caught it they say. 142-5.
- Fig. 6.— *na ga kwãñ*, he had walked. 154-12.
- Fig. 7.— *nũn ic gãL*, let me chop.
- Fig. 8.— *nũn sũL gal*, you beat? 129-10.
- Fig. 9.— *te't gãñ'*, it is mouldy. 167-16.
- Fig. 10.— *te' gũn ga ne*, he killed.
- Fig. 11.— *k'e gũL gal'*, she threw away.
- Fig. 12.— *na' deL gãL kwãñ*, he had poured. 125-13.



1 e t t' e s i l t e ŋ l ε



2 s ŋ ŋ l t e ŋ t



3 n a ŋ ŋ l t e ŋ l



4 t e' e l t e ŋ t



5 t e' e l t e i ε y a ε n i



6 n a ŋ a k w ŋ ŋ



7 n ŋ n i e ŋ ŋ l



8 n ŋ n s ŋ l s a l



9 t e' t s a ŋ ε



10 t e' ŋ ŋ n s a n e



11 k' e ŋ ŋ l s a l ε



12 n a ε d e i s ŋ l k' w ŋ ŋ

EXPLANATION OF PLATE 43

VERBAL STEMS

- Fig. 1.—*gûl ge le*, it was getting late.
Fig. 2.—*n hōc t ge'*, let me see you. 142-6.
Fig. 3.—*te't tes gĩñ*, he carried. 101-9.
Fig. 4.—*te'ō na gūt gūc*, he looked back. 87-13.
Fig. 5.—*te'ōn t gets'*, he looked at them.
Fig. 6.—*te' nō dūg ge'*, we will put in water. 139-9.
Fig. 7.—*te'n nūg gūc*, she brings in. 180-9.
Fig. 8.—*nĩ gin ne'*, I bring. 138-14.
Fig. 9.—*te'n nūñ fĩñ*, he brought. 135-11.
Fig. 10.—*səl gin ya' nĩ*, he killed they say. 141-13.
Fig. 11.—*Lel yĩs'*, he tied together. 174-15.



1 k u l k e l e



2 n h o e t k e



3 t e' t' e s k i u'



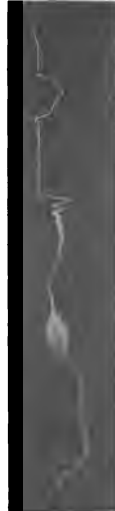
4 t e' o n n k u' t' k u' e'



5 t e' o n t' k e t s e'



6 t' e' n o d u k k e e'



7 t e' n n u' k u' e'



8 s n t k i n n e



9 t e' n n u' u' i'



10 s e' l k i n y a' e' n i'



11 l e' l y' i' t' e'

EXPLANATION OF PLATE 44

VERBAL STEMS

- Fig. 1.—*te' qal ya' ni*, he walked they say. 93-12.
Fig. 2.—*t gūn gūts'*, it was getting thick. 126-11.
Fig. 3.—*be nē sū git de*, I am getting afraid. 130-15.
Fig. 4.—*te' ge qōt*, they stretched. 114-1.
Fig. 5.—*te'e nai gat de*, he sewed up. 122-13.
Fig. 6.—*nō na' ŋ ŋat*, he untied it. 122-15.
Fig. 7.—*ū ŋ qōt*, spear it. 128-12.
Fig. 8.—*nūn ūn dūk k'e'*, get up (sing. imp.). 100-3.
Fig. 9.—*dō te't tūl k'ūc*, it did not lighten. 74-6.
Fig. 10.—*n hes ka ni*, we spent the night. 167-7.
Fig. 11.—*nō na ni kats'*, I fell back. 182-16.



EXPLANATION OF PLATE 45

VERBAL STEMS

- Fig. 1.— *ha yī kō wa kac*, that one give him (a basket of food).
Fig. 2.— *na' ke'*, bathe (plu. imp.). 172-14.
Fig. 3.— *bel ke'*, he finished.
Fig. 4.— *nōc kūt*, I want to swallow you. 181-14.
Fig. 5.— *tc' gūl kūt*, he swallowed. 109-7.
Fig. 6.— *Le ne' ha' tc'n nūl kūt*, all they came. 154-12.
Fig. 7.— *dō ha' tc't teL kūt*, they did not go. 167-17.
Fig. 8.— *dō ha' cō dōL kūt*, do not ask me. 166-8.
Fig. 9.— *nūn neL k'ai ya' nī*, he hit they say. 156-14.
Fig. 10.— *gūl k'an*, there was a fire. 162-13.
Fig. 11.— *ūL k'añ*, make a fire. 127-11.
Fig. 12.— *t gūñ k'ōte'*, it got sour.



1 h a y i k' ō w a' k' a e



2 n a' k' e ε



3 h e l k' e ε



4 n ō e k' ū l



5 tē' z ū l k' ū t



6 l e n e ε h a ε tē'm ū l k' ū t



7 d ō h a ε tē' t' e l k' ū t



8 d ō h a ε e ō d ō l k' ū t



9 n ū n n e l k' ū y a ε n t



10 z ū l k' ū n



11 ū l k' a ū



12 t' z ū ū k' ū t e ε

UNIVERSITY OF CALIFORNIA PUBLICATIONS
IN
AMERICAN ARCHAEOLOGY AND ETHNOLOGY

Vol. 11, No. 2, pp. 177-188

April 30, 1914

PHONETIC ELEMENTS OF THE
DIEGUEÑO LANGUAGE

BY

A. L. KROEBER AND J. P. HARRINGTON

An opportunity afforded A. L. Kroeber to hear Diegueño as spoken by Rosendo Curo of Mesa Grande, San Diego County, California, in June, 1912, revealed great resemblances and some striking differences between its sounds and those of its sister tongue Mohave, likewise of Yuman family, of which a laboratory analysis had previously been made.¹ On the whole, the experience gained with Mohave made the phonetic elements of Diegueño seem easily recognizable.² Independent observations on the phonetics of the language courteously furnished by Mr. J. P. Harrington, who has had a brief opportunity to hear Diegueño, have been added as notes initialled by him.

POSITION

The points of articulation for consonants in Diegueño are the same as in Mohave. The palatal and velar stops, *k* and *q*, *kw* and *qw*, are perhaps less clearly distinguished. The dental and palatal-alveolar stops, *t* and *ʈ*, are formed as in Mohave, and

¹ Present series, x, 45-96, 1911.

² Some Diegueño words recorded a number of years previously from Salidon and Onorato of San Felipe, then at Pala, were also available. T. T. Waterman has a phonetic key in the introduction, and a number of words in the body, of his "Religious Practices of the Diegueño Indians" (Present series, viii, 271-358, 1910) and J. P. Harrington some notes in *Journ. Am. Folk-Lore*, xxi, 324, 1908. There are said to be two Diegueño dialects, the southern being spoken at Manzanita, Campo, and La Posta. The northern dialect is the only one referred to here.

occur in the same stems; only in the word for earth, number 49 in the appended list of words, was palatal *ʃ* heard in Mohave and interdental *t* in Diegueño. No general transposition of any sound to a more forward or backward formation is noticeable, except the uniform change of Mohave *ʒ* to Diegueño *y*.

STOPS

The Diegueño stops, which are *p*, *t*, *ʈ*, *k*, *kw*, *q*, *qw*, with which can be reckoned the affricative *tc*, are subject to the same rule that applies in Mohave and in a number of other native American languages: when initial or medial, they are half voiced, the explosion but not the occlusion being sonant; when final or followed by another consonant, they are entirely unvoiced and more strongly aspirated.

The stops on the whole show little change between the two languages. There are a few instances of stop and nasal interchanging; but they are uncommon. Such are: Mohave *t* becomes Diegueño *n* (nos. 1, 2 of the list)³; and Mohave *m* becomes Diegueño *p* (3, 4, 15, 30).⁴

NASALS

M, *n*, and *ny* also usually coincide in Mohave and Diegueño. Compare numbers 5, 10, 13, 18, 21, 22, 27, 29, 36, 37, and others in the list.

FRICATIVES

In this class of sounds the two dialects show more difference, Mohave *θ*, *ʒ*, and *v* being lacking in Diegueño.

³ Or may it be that Diegueño *ʌx-inn*, recorded by me in its predicative form as *ʌx-innk* or *ʌx-inn^hk*, contains an *n*-sound cognate with that of Mohave *asentik*, it is one? Mohave *sito*, Cocopa *cit*, would then be regarded as a separate word, although perhaps of the same origin. Or perhaps the Diegueño *nn* stands for the Mohave *nt*; this would be the reverse of what happens in no. 30 of the list, where a long nasal in Mohave is represented in Diegueño by nasal plus stop. As regards Diegueño *ʌxann*, it is probably the representative of Mohave *axot*, Yuma *axot*, but one might also think of connection with Mohave *ta-ahana*, real, good.—J. P. H.

⁴ Perhaps this change occurs most frequently at the beginning or end of a word. Cf. the change of *v* to *p* mentioned under Fricatives below. The change also occurs within Mohave (cf. *-motam* and *-pote*, negative suffixes) and probably also within Diegueño.—J. P. H.

Mohave surd interdental θ is always *s* in Diegueño (4-10, 51).⁵ Diegueño *s*, however, corresponds also to Mohave *s* (11-16). But in a few words (1, 17, 18) Mohave *s* becomes *x* in Diegueño.⁶ This *x* seems to be formed more anteriorly than the ordinary *x* of Diegueño, which has a *k* or *h* articulation. It might therefore be distinguished as *x*.

It should be stated that the word for eagle was heard as *espa* as well as *ex-pa* from two of the Diegueño informants. Mr. Waterman writes *espa*.⁷

Diegueño *s* seems "sharper" than Mohave, that is, less like *sh*.

The Mohave sonant interdental fricative δ is *y* in all corresponding Diegueño stems determined (19-21, 51, 73).

Another voiced fricative of Mohave, bilabial *v*, was normally heard as *w* in Diegueño (23-27, 58). Dr. Waterman also writes it *w*. When the ending *auva* becomes *au* in Diegueño (33, 64), it probably stands for *auw*, which would be regular, final vowels being frequently slurred or lost in Diegueño. In some instances (67, 73) Diegueño *p* seems to stand for *v*.⁸ The word for no (72), *umau*, Mohave *vara*, appears to show the equivalence *v* > *m*; but this is probably fallacious, as the correspondence *o* > *au* is well established, which would give as the Mohave equal *umo* or *mo*, and this is apparently represented in that dialect by the negative suffix *-moṭe*.

It should be added that the single word "where" (22), Mohave *maki*, was heard in Diegueño as *maive*, with distinct bilabial *v*.⁹

The surd palatal or velar fricative *x* must also be mentioned here. In Mohave a corresponding sound was written both *h* and *x*, but was finally regarded as a breath accompanied by some pos-

⁵ Mohave is the only Yuman language of the Central group which has θ instead of *s*.—J. P. H.

⁶ Cocopa has *c* or palatalized *s*, showing an intermediate stage between *s* and *x*.—J. P. H.

⁷ Present series, VIII, 314, 1910.

⁸ This change appears to occur frequently at the beginning or end of a word. Cf. the change of *m* to *p* (under Stops above).—J. P. H.

⁹ Mr. Isidro Nejo of Mesa Grande pronounced the word *maipe**, with *p*, when articulating slowly. Perhaps we have here to deal with some change such as in Shoshonean, where an informant will insist that such a word as *pa*, water, never can become *va*, and yet in talk will be heard to say *va* when the conditions require it.—J. P. H.

terior narrowing rather than a true fricative, as appears to be likewise the case in a number of other Californian languages. Hence the orthography *h* was adopted. In Diegueño the corresponding sound (2, 4, 9, 36, 38, 44, 47, 55, 56, 58, 75) is much more clearly of fricative character, and was therefore written, as also by Dr. Waterman, *x*.¹⁰

The labialized fricative *xw* corresponds to *x* as *kw* does to *k*. Perhaps *X* and *Xw*, paralleling velar *q* and *qw*, should also be distinguished. A sound similar to *xw* was found in Mohave, but seemed to be only *h* followed by a short *o* or *u* (32, 56, 62, 69). Possibly the orthography *hw* or *xw*, as in Diegueño, would be more accurate.

LATERALS

Mohave has two *l* sounds: *l* and *ly*. Diegueño has at least three: *l*, *ly* and *L*. Possibly *Ly* should be added.¹¹

Mohave sonant palatalized *ly* corresponds, wherever the same stems could be compared, to Diegueño surd *L*, either unpalatalized (9, 11, 28-31, 34-37) or possibly palatalized (32, 33, 38). The only exceptions found, numbers 21 and 56, were recorded as sonant in Diegueño. These may be errors. The *L*, it should be added, is a spirant, not an affricative.

No regular Mohave equivalents have been determined for Diegueño voiced *l* and *ly*, which occur both medially and finally (4, 7, 13, 14, 39, 40, 41, 52, 63).¹² That they have not been found

¹⁰ The Diegueño *x*, like that of the neighboring members of the Central group (Yuma, Maricopa and Cocopa) is much more fricative than its Mohave counterpart. A Yuma Indian living among the Mohave once very naively volunteered the information that the Yumas say *axa*, water, while the Mohaves say *aha*. These Yuman developments are almost exactly paralleled by the sound of Spanish *j* in various dialects of Spanish. In Californian and New Mexican Spanish the *j* is very *h*-like, and a Mohave renders this sound perfectly when he uses his Mohave *h* in talking Spanish. In certain dialects of old Spain, however, the *j* is very fricative, and I have felt when hearing it, as also in the case of the Yuma and Cocopa *x*, that it is articulated farther back in the mouth than is the *x* of German "ach."—J. P. H.

¹¹ Yuma and Cocopa have both voiced *l* and *ly* and voiceless *L* and *Ly*.—J. P. H.

¹² In 4, 7, 52 Diegueño has *-ly*, and Mohave has nothing. The fact that both *ẓwi* and *ẓwily* were given as meaning stone led to the supposition that *-ly* is merely a separable suffix, but the informant insisted that *ẓsily*(7) is the only word meaning salt, and that *ẓsi*(8) can mean salt under no circumstances but means to drink. The word meaning fly is

initially is not surprising, since very few Mohave words begin with either *l* or *ly*.

TRILLS

Diegueño and Mohave *r* occur in the same stems, as in numbers 3, 6, 61 of the list, but are differently formed. Diegueño *r* lacks the characteristic trill of the Mohave sound; it is soft, untrilled, and resembles English *r*. Dr. Waterman, who writes it *ɾ*, calls it *surd*.¹³ It occurs also in the following words: *kwe-rau*, hot; *pitckara*, two stand; *meri*, penis; *menura*, hear; *kosmirai*, crazy; *ekurr*, far. In the last word it is lengthened, that is, prolonged, like Mohave *rr*.

Another *r*, which is distinctly trilled and very much like Mohave *r*, though the precise point of articulation was not determined, was found only in the words *karap*, hit him (imperative), and *expa uru*, bald eagle. Dr. Waterman describes this sound as trilled and made with the tip of the tongue close to the front of the palate.¹⁴ He writes it *r*, but gives it in only a few words. Of these, *kwinyor*, red, was not found by the author, and *saír*, buzzard, was heard as *sa'i*.¹⁵

SEMI-VOWELS

Diegueño *y* sometimes represents Mohave *ʒ*. In other stems it apparently is not the equivalent of this sound but of some other, probably *y*. No common stems in which *y* corresponds in the two languages have, however, been found.¹⁶ Disregarding words in which *y* is not certain on account of neighboring *i*, it occurs in Diegueño in *yaip*, wind, *yuwil*, thigh, *oyuk*, outdoors, *kwayuk*, a lizard, *'uyel*, flea, and perhaps also in *yimi*, wild cat, very irregular, appearing as *xalesmo* in Yuma. In 39 Diegueño has *-l*, Mohave nothing. In 13 Diegueño appears to have either *l* or *n*; Isidro Nejo gave the pronunciation *kwan'mesap*. Nos. 40, 41, 63 appear to be very irregular.—J. P. H.

¹³ Present series, VIII, 272, 1910.

¹⁴ *Op. cit.*, 272.

¹⁵ Recorded as *sa'i*, with no *-r*.—J. P. H.

¹⁶ May it be that Mohave *Kwayu* and Diegueño *Kuyahomar*, name of a mythic being, share *y* in common?—J. P. H.

and yamatai, panther, though the latter has also been recorded as nyimatai, which may be more correct in view of a probable relationship to the Mohave stem nume.¹⁷

W occurs in Diegueño as the equivalent of Mohave bilabial v, probably also otherwise. While found in Mohave, it is rare in that language, and no certain correspondence of stems containing w have been determined between the two idioms. Thus Diegueño 'itcix, heart, seems to have no connection with Mohave 'iwa.

It need hardly be pointed out that kw and xw, like ly and ny, are only orthographies, and not combinations containing a simple w or y.

BREATHS AND GLOTTAL STOPS

The soft, faint h sound of Mohave, written ', and frequent as the sign of the third person, recurs in Diegueño. The body-part terms written with it all contain the possessive element indicative of the third person.

Mohave h is represented by Diegueño x, already discussed. The difference between the sounds is not as great as the orthography might imply.

Glottal stops occur in Diegueño (16, 73), but were not noted as very vigorously formed.¹⁸

LENGTHENED CONSONANTS

Prolongation of consonants is a feature shared by Mohave and Diegueño. In addition to numbers 1, 2, 39, 46, 50, 60, 66, prolongation was observed in *esann*, younger sister, *ekurr*, far, *expannk*, whale, *amokwinn*, pipe, *axoll*, string. It will be observed that *nn* of *ex-inn* and *exann* (1, 2) corresponds to Mohave *t*, while on the other hand Mohave *hammulye* is represented by Diegueño *empil*.

¹⁷ With the change in the last syllable of Mohave *numeta*, Diegueño *nyimatai*, cf. that in Mohave *kwaʔiðə*, medicineman (51), Diegueño *kwisiyai*.—J. P. H.

¹⁸ A glottal stop after a final vowel and followed by a very short but fully voiced vowel of the same quality was heard in *kimaʔə*, sleep thou!, *maipeʔə*, where?, and probably also in *piyaʔə*, this.—J. P. H.

TABLE OF CONSONANTS

The articulation is not always identical for all the sounds represented by letters on one line.

	Stop, half sonant or aspirated surd	Affricative, half sonant or aspirated surd	Fricatives, surd	Nasal continuants, sonant	Lateral continuants, sonant	Lateral continuants, surd	Trilled continuant, sonant	Half-trilled continuant	Semi-vowels	Breath
Labial	p			m					w	
Dental	t									
Alveolar		t	s	n	l	L				
Prepalatal	tʃ	x		ny	ly	(Ly)	r	r	y	
Postpalatal	k		x							
Postpalatal, labialized	kw		xw							
Velar	q		(Xʃ)							
Velar, labialized	qw		(Xwʃ)							
Glottal	ʔ									

VOWELS

A characteristic trait of Mohave is the slurring of unaccented vowels, especially initially and finally. The same tendency seems even stronger in Diegueño, as numbers 9, 28, 29, 30, 31, 34, 36, 37, 47, 49, 61, 62, 68, 71 show. It is true that many of these words were at first heard without the final vowel in Mohave also; but, on the other hand, the slighted vowels were expected and listened for in Diegueño, so that their absence can hardly be explained by unfamiliarity alone.¹⁹ It is quite likely that these and other similar stems really begin or end in consonants, and that the additional neutral a which Mohave shows is merely a euphonic increment.

This colorless and unaccented a was at first frequently heard as e in Mohave. The same was true of Diegueño. In fact, the sound generally continued to be so heard, and if recent impression were the only available guide, the author would have little hesitation in saying that Diegueño e (written *ɛ*) corresponded to Mohave a as the neutral vowel, as in 2, 5, 7, 10, 11, 15, 17, 23, 26, 28, 29, 33, 34, 35, 38, 42, 44, 45, 46, of the list. But in the

¹⁹ I did not note any final vowel corresponding to the Mohave -a.—J. P. H.

records from the former informants a was often written instead of *ɛ* in these same words. Dr. Waterman also writes *xatca* for *xetca*, *awī* for *ewī* (though he agrees in *expa*, Mohave *aspā*). It must therefore be left open whether *ɛ*, as this colorless sound might be written, or *ɛ*, is the more proper designation for the unaccented neutral vowel of Diegueño; but the writer inclines to the belief that there is the suggested difference between Mohave and Diegueño on this point.²⁰

The Diegueño vowel system seems also to differ from the Mohave in the occurrence of sounds of close quality, at any rate *i* and *u*,²¹ in addition to the open values; and perhaps of a third, still different *i*. This may be the sound that Dr. Waterman has indicated by *ü*.

More certain are several definite correspondences with Mohave. Accented *a* generally recurs with distinct quality in both languages (3, 6, 9, 14, 15, 17, 18, 24, 25, etc.).²²

Unaccented Mohave *a* is sometimes *i* in Diegueño: numbers 12, 14, 15, 21, 43, 51. On the other hand *i* becomes *a* in 28, 39.

²⁰ The determination of the quality of the vowel in these unaccented syllables proved so baffling that I determined to operate with a large number of characters. I soon found myself using nearly all the symbols for mixed vowels provided for by the alphabet of the International Phonetic Association. Before non-palatal sounds I heard the sound of *ɛ* or *ɛ*, usually as the former when I listened carefully, but I was impressed, as was Dr. Kroeber, that the sound is often more *ɛ*-like than in Mohave. Before palatal sounds I heard the sound even as *i*. Thus *inya*, sun, *xitca*, Pleiades, *miyulyk*, sweet. But I heard the word for eagle only as *expa* or *axpa*, and find that I did not mark or note the *x* of the word as being different from the ordinary *x*. The *p* cuts off the offglide of the *x* and thus partly obscures the *x*. On the other hand, the Mohave *i* is certainly represented by a more open vowel than *i* in many Diegueño words. Thus Diegueño *ekwi*, cloud(53), *xtu*, belly(54), *exu*, nose(55). Cf. Yuma and Cocopa *akwi*. But in Mohave the first vowel of these words is *i*. *Tinyam*, night(48), retains, however, its *i* as in Mohave, perhaps due to the following palatalized nasal. Can it be that *r* also exercises this palatalizing influence in such a word as *kwirak*, old man(61), Yuma *kwera'ak*? In Walapai *r* sometimes takes the place of Mohave *ly* and Mohave *ly* is a palatalized sound. The first vowel of this word in Mohave is sometimes *ɛ*, sometimes *o* (due to preceding *kwf*). Also Diegueño *atimm*, bow(66) has its first vowel rounded in Mohave. In Diegueño *au*, fire(64) (Mohave *a'auva*) the first vowel of the Mohave word seemed to be entirely lacking in the Diegueño word. Certainly the number of more or less distinct vowel qualities is very large and it remains to be determined how the variations should be grouped and to what extent they are the result of contiguous sounds.—J. P. H.

²¹ Close *i* was heard in *tinyam*, night(48), *piya'*, this(73) and *emily*, leg(52), perhaps due to the following *ny*, *y* or *ly*. In several words a moderately close *u* was heard.—J. P. H.

²² This *a*, as in Mohave, often has considerable *ɛ*-quality.—J. P. H.

Mohave *e* and *i* become respectively *i* and *e* in Diegueño about as often as they retain their quality. Thus, *e* equals *i* in numbers 5, 26, 32, 40, 45, 52, 53, 56; *i* becomes *e* or *ɛ* in 8, 11, 18, 19, 42, 52, 53, 54, 55; while *i* recurs as *i*, or *e* as *e*, in 1, 7, 8, 9, 16, 20, 23, 31, 48, 51, 65, 66, and 73.

Of the back vowels, *o* is uncommon in Diegueño. Mohave *o* is represented most frequently by *u* in Diegueño (4, 20, 34, 35, 41, 46, 54, 57), or sometimes, at least when final, by *au* (3, 19, 56).²³

Mohave *u* is less often altered in Diegueño. It is preserved in numbers 21, 42, 55 of the list. When Diegueño alters Mohave *u*, it is usually to a front vowel (13, 30).

ACCENT

So far as aural impression may be relied upon, the stress and pitch accents of Diegueño seem to be identical with those of Mohave.

COMPARATIVE LIST

	<i>English</i>	<i>Mohave</i>	<i>Diegueño</i>
1	one	sito	ɛx.inn ²⁴
2	good	ahòt	ɛxann
3	fox	marho	parxau
4	fly	ðilyahmo	mesxapu-ly
5	woman	ðenya'äka	sinyɛ
6	five	ðarap-k	sarap ²⁵
7	salt	aθ'l	ɛsi-ly
8	drink	iði	ɛsi
9	ocean	(a)ha-ðo'ilya	xa-siL
10	raccoon	namaða	nɛmas
11	hand	isalya	ɛsɛL
12	liver	'ipasa	tc-ipɛsi
13	star	ha-muse	kwily-mesap ²⁶
14	mockingbird	sakwa-ða'älyä	sakwi-lau
15	white	nyamasäm	kwɛ-nimsap
16	buzzard	asei	sa'i
17	eagle	aspä	ɛx.pa ²⁷

²³ With the equivalence Mohave *-o* = Diegueño *-au*, cf. Mohave *-e* = Diegueño *-ai* in no. 51.—J. P. H.

²⁴ Also given as *ɛx.innk*, it is one.—J. P. H.

²⁵ It is stated that the proper Diegueño term for five is *'esalɛakai*.—J. P. H.

²⁶ The informant gave *kwan'mesap*, evidently a variant form.—J. P. H.

²⁷ *ɛxpa*!—J. P. H.

	<i>English</i>	<i>Mohave</i>	<i>Diegueño</i>
18	sleep	i-smā	z-x.mā
19	tooth	'lōō	ʔyau
20	eye	'lōō	iyū
21	sweet	maḍuly-k	miyul-k
22	where	maki	maive ²⁸
23	stone	avi	ʔwi ²⁹
24	house	ava	awa
25	south	kaveik	kawak
26	rattlesnake	āve	ʔwi
27	you (pl.)	māteva	minyawapte ³⁰
28	tongue	'ipalya	'anapɛL
29	ear	'amalya	'ɛmaL
30	ash	hammulye	empil
31	hot, day	'ipily-k	'upil
32	skunk	ilyhue	kwilyexwiru ³¹
33	rabbit	halya'auva	xɛLiau
34	spider	halytota	xɛLtut
35	roadrunner	talypo	tɛLpu
36	gourd, turtle	ahnalya	axnaL
37	rat	amalyka	maLk
38	moon	haly'a	xɛLyā
39	arrow	ipa	apall
40	beard	'iavume	'alemi
41	mortar	ah-mo	kaly-mu
42	see	iyu	ʔwu
43	sun	anyā	inya
44	Pleiades	hatca	xɛtca
45	metate	ahpe	ɛxpi
46	mountain-sheep	ammo	ɛmmu
47	dog	ahaṣa	axaṣ
48	night	tinyam	tinyam
49	earth	amaṣa	amat
50	sky	ammaya	ammai
51	medicineman	kwaṣiḍḍ	kwisiyai ³²
52	leg, foot	'ime	'emi-ly
53	cloud, rain	ikwe	ɛkwi
54	belly	'ito	'etu
55	nose	'lhū	'exu
56	nail	kelyuho ³³	silyexwau
57	white man	haiqo, hiiqo	xaiqu
58	two	havik	xawok ³⁴

²⁸ Given as maipe'.—J. P. H.²⁹ Given also as ʔwily.—J. P. H.³⁰ Given as minyawap.—J. P. H.³¹ Given as kaLyixwi'u.—J. P. H.³² Recorded as kwasiyai.—J. P. H.³³ Mohave ho < hwof.—J. P. H.³⁴ The pronunciation is practically identical with the Cocopa.—J. P. H.

	<i>English</i>	<i>Mohave</i>	<i>Diegueño</i>
59	mouth	'iya	'ä
60	knee	memepùka	mexetunn
61	old man	kwora'äka	kwirak
62	blood	ahoata	axwat
63	snow	'upaka	aläp
64	fire	a'auva	äü
65	dance	ima	ima
66	bow	otisa	atimm
67	tobacco	auva	up
68	deer	aqwäqa	aqwaq
69	badger	mahoa	maxwa
70	bird	tciyère	asa
71	raven	aqäqa	axäq
72	no	vära	uman ²⁵
73	this	viäa-nya	piya' ²⁶
74	bad	alai-k	wilite
75	cane	ahtä	artä

CORRESPONDING SOUNDS

<i>Mohave</i>	<i>Diegueño</i>
p	p
t	t
t	n (occasionally)
t̥	t̥
k	k
kw	kw
q	q
qw	qw
tc	tc
m	m
n	p (sometimes)
n	n (usually)
ny	ny (usually)
ø	s
s	s (usually)
s	x (occasionally)
š	y
v	w (always when medial)
v	p (sometimes)
h (x tinge)	x
ho (= xw)	xw
	X (ʔ)
	Xw (ʔ)
ly	L
(ʔ)	l

²⁵ Recorded as 'uman.—J. P. H.²⁶ Recorded as piya'.—J. P. H.

<i>Mohave</i>	<i>Diegueño</i>
(ʔ)	ly
l	(ʔ)
r (trilled)	r (untrilled)
(ʔ)	r (trilled)
rr	(ʔ)
y	y (ʔ)
w	(ʔ)
ʻ	ʻ
,	,
a	a (normally)
a	i (occasionally)
a (unaccented = ʌ)	ɛ
e	e (frequently)
e	i (frequently)
i	i (frequently)
i	e (frequently)
i	a (rarely)
o	u (usually)
o (final)	au (sometimes)
u	u
u	i, e (occasionally)
(ʔ)	o (rare)

UNIVERSITY OF CALIFORNIA PUBLICATIONS
IN
AMERICAN ARCHAEOLOGY AND ETHNOLOGY

Vol. 11, No. 3, pp. 189-277

February 27, 1915

SARSI TEXTS

BY

PLINY EARLE GODDARD

CONTENTS

	PAGE
Introduction	190
Key to Sounds	191
Descriptions and Information	192
The Sun Dance	192
Prayers	196
The Hair Parters	196
List of Dance Properties	206
The Dog Feast	208
Societies	214
Qualifications and Duties of Chiefs	214
Shamans	216
Sports	218
Painting of Tipis	218
Buffalo Pounds	220
Trapping Beaver	220
Primitive Dishes	220
Stone Arrowheads	222
What Eagle-ribs Saw at Edmonton	222
Medicine Bundle Rituals	224
Origin of the Beaver Bundle	224
Planting Tobacco	226
Jackrabbit Gives Medicine for Swift Horses	226
White Goose Gives Medicine for Horses	228
Buffalo Bull Gives a Shield	230
Owl Skin War Medicine	230
Squirrel, a War Medicine	232
Sky Person Gives a Medicine	234
Pat Grasshopper Receives Medicine from Hawks	236
A Knife, a War Medicine	238
Weasel Gives a War Medicine	240
Rock Gives a War Medicine	242
A Painted Tipi	242
Finding a Buffalo Stone	242
Wild Parsnip Gives a Medicine	244

	PAGE
Narratives	246
Te'agūcācga, the Wise Sarsi	246
Famine Relieved by Magic	250
Broken-Knife Relieves Famine	252
A Captive Sarsi Boy Escapes from the Sioux	258
A Lame Man Captures Horses	260
A Bear Brings Home a Crippled Sarsi	262
Two Hawks Test Their Speed	262
A Bird Has its Mate Doctored	264
A Fight with a Bear	264
Curing Madness Resulting from a Wolf Bite	266
Minor Narratives	266
The War Deeds of Eagle-ribs	268
The Personal Experiences of Grasshopper	272

INTRODUCTION

The Sarsi are an Athapascan-speaking group of Indians who have been closely associated with the Northern Blackfoot of Alberta since the earliest historical reference to either tribe in 1754. There are no traditions of a trustworthy nature which connect the Sarsi definitely with any other Athapascan tribe. Linguistically all the northern Athapascan east of the Rocky Mountains except the Sarsi and the Beaver on Peace River have certain sound shifts not shared by the latter two languages. The Sarsi and Beaver, however, are hardly mutually intelligible, although both show relationships with the languages of British Columbia.

The texts here presented were collected during the summer of 1905. The expenses of this visit were provided by the American Museum of Natural History under an agreement that that institution should have the collections and the ethnological information and the University of California should be entitled to the linguistic results. The larger number of these texts were revised in 1911 with the aid of Charlie Crowchief, who was the interpreter used in obtaining them originally. Many of the texts were also traced with the Rousselot apparatus from his dictation. It was discovered that in originally recording the texts certain intermediate sounds were written as surds and thereby fell in with a series of surds from which they should be differentiated. The glottally affected sounds in Sarsi are

unusually hard to distinguish. Charlie Crowchief at the time the texts were recorded confused *l* and *s* in speaking. That all these errors were corrected when the texts were revised with his aid is not probable.

The main informant was Eagle-ribs, a man then about 65 years old. As he says in one of his narratives, he ranked as a chief according to the old order. He led the chiefs in relating coups during several sun dances.

The publication of the texts is for the purpose of furnishing material for phonetic and grammatical study. It is intended that this paper shall soon be followed by a grammatical analysis of the material here contained. Free translations of most of the texts have been or will be published.

KEY TO SOUNDS

- a, e, i, o (unmarked) open as in father, met, pin, not.
- ē, ī, ō, ū close as in they, pique, note, and rule.
- ā, ē, ī, ō, ū nasalized.
- ɤ narrow, as u in but.
- y as in yes; sometimes written for a sonant spirant when coming before a front vowel.
- w as in will, seldom occurs.
- m as in met.
- n as in net.
- ŋ as ng in sing.
- l as in let.
- ɭ a surd lateral spirant; the breath escapes between the back teeth and the sides of the tongue.
- ɭ' the last sound with glottal affection; an affricative.
- z a sonant spirant; as in lizard.
- s as in sit; a surd spirant.
- j as z in azure; a sonant spirant.
- c as sh in shall; a surd spirant.
- g a palatal sonant spirant similar to the sound of *g* in *Tage* as spoken in Northern Germany.
- x a palatal surd spirant; as ch in German.
- h written in many places apparently for the preceding sound lightly articulated.
- d a dental stop, intermediate as to sonancy.
- t a strongly aspirated surd dental stop.
- t' a glottally affected surd dental stop.
- g a fully sonant palatal stop; probably often written for the following sound.
- ḡ a palatal stop, intermediate as to sonancy; sometimes written *k* through oversight.
- k a strongly aspirated surd palatal stop.
- k' a glottally affected surd palatal stop.
- dj and dz sonant affricatives.
- ts' and tc' glottally affected surd affricatives.
- ' denotes unusual aspiration.
- glottal stop.

DESCRIPTIONS AND INFORMATION

THE SUN DANCE

- dū xa t'a 'a ts'is 'in na t'a tī ga ma gū dīl la na
 ka ts'i ts'i kū wa gī na 'i' gū dī nūc cī 'i ta'
 tsis da L'ū wū 'as la dī ne mək gū dī la dī na gil la
 dī na ts'i kū wa 'i gī gī ka ts'i tsis da L'ū wū' 'as sa dīa
 5 gī gī is nī i ta tsa t'i gī dō gī gil la dī na la t'i gī
 tsis da L'ū wī' 'a gīs 'ic xa nī nī lən nī ka ts'i
 dī dī gəc ts'i ga nī t'i gī mī tsū' La t'a xa t'e'is t'əc
 'a lī ka ts'i nəc 'i wa t'i gī Lik ka kū dīs ga dī na
 na tsa na 'i ta zī k'a gūs t'i ga gim ma ga ts'i kū wa
 10 na tsən na 'a gū cən na' 'as gī nīc t'i gī 'i tsū' 'i
 k'a gī nīs t'əc
 tsis da L'ū wū' ts'az zil lī na ts'it tsa zīt da
 'a t'e'iz 'ic 'is ga kū wa k'a La dī t'e'ic ts'az zil lī
 tein na 'i na gal ləl lī t'i gī 'a gū ka gū na ga dīl
 15 'a t'i gī təc az zil lī 'a ts'il la hī na gī gī ləc dī tēi 'i
 nī da ts'i dī teic gū nīs na dī zā' 'a t'e'ic 'ic təc az zil lī
 tsa ha dī tī gī djū' gū nīs na dī zā' k'a nī t'a
 tsī nī gī L'ū nī tī gī dī tēi 'i tsī' līl la təc tēiz
 gwa t'e'ic 'ic ha lī kū wa 'is t'i ga kū dīl tē ta dī dīl na
 20 xa na gī dal lī t'i gī dīn na' 'is ga kū wa 'i təc az zil lī
 'a la gī na 'i 'i tsū' ga t'e'is tēl j
 tēis da L'ū wū 'a ts'il la ts'i tī t'e'in nəc tsis da L'ū wū'
 'a ts'i la dī Lik ka kū dīc ga na t'e'in nəc na tsən na 'i
 ta zī k'a nī na gī nəc gim mī nas ka 'a t'i gī na t'e'it teic
 25 gim mī t'e'il līc 'as tsa' tsis na L'ū wū' gī na' gim ma ga
 t'e'il ləc dī na zil las na 'i dī dīl dīn nīs i dū gī tēij
 tū nī za k'a ga zā' gī dā' tīs tas t'e'itc dīl zā'
 gim mī zīt da da ga dī t'a dī ta' gim mī tsin na t'i ga t'a' tēū
 mī ka la zā' t'e'a sī tēa mī tsī' k'i za da gī L'ū
 30 Lək ka zā ts'i ka gū yən na Lək ka zā ga sit dan na
 'i tsū' ma ga t'e'i 'ətc 'i wa t'i gī nī tēit t'e'əc ga
 k'a gīs t'e'ūl nīs t'as sī ta gī ga 'al lī līl la 'i ta sa ga
 nī t'a sī ka la i līl la gū dja dī na 'is la gū la
 t'e'in nīs k'a na gī gī 'əc 'i wa t'i gī 'i tsū' 'i dī ka la ts'i'
 35 na gī gī dī 'ətc gī gī tēiz gū

DESCRIPTIONS AND INFORMATION

THE SUN DANCE

Not without cause they do it. Very who is sick for him women it is who say, "Father, sun lodge I will make, this sick person he may get well." These women for him sun lodge we will make those who say it, he dies then they do not make it. He gets well then sun lodge they make. Buffalo many for they hunt. Those they kill then their tongues all they cut out. They come together. Then they camp in a circle. Those who make the lodge middle just their tipi. Women sun dance who know they ask then the tongues they cut up.

Sun dance sweat-lodge they build before they make. Young men all mount their horses. Sweat-lodge poles they are bringing back then they sing. There sweat-lodge they are going to make they put them. The poles they put in the ground. One hundred only they make. Sweat-lodge stones these too one hundred only there are. They twine together then the poles red paint with they paint. They make it. Old men all go in. They pray. As they come out then these young men sweat-lodge the makers tongues to them they give.

Sun lodge they make toward they move camp. Sun-lodge where they make camp circle they came. Sun-dance maker middle they camp around beside her. There they make it. They give them first sun lodge their clothes to them they give. These make the dance four days they do not eat. Water a little only they drink. Cane painted only behind them it hangs. Their hats large feathers, her husband only crow's tail side of his head is tied on. One women sensible one to her husband tongue to her he gives. Then small pieces she breaks off. Toward sky holding it with, "Father, me pity. My husband with well I have lived it is." On ground she puts it. And the tongue to her husband she takes it back, they may eat it.

- 'a ga na di gi 'a 'i t'ū mi k'a te'ie 'ie 'i wa t'i gi
 na gi ni dji mi ki da te'i ləc 'i wūs k'a di tei 'i t'as si
 i lil la ka ni ga 'i wūs 'i k'a 'i tei ni tsis di yū wū'
 'a ga na di gi 'a 'i ts'i 'a ka ni ga la t'a 'a te'it la
 5 'i tei nas 'a ga 'a te'is 'ie di na tsin na ga di dji
 dzin nis si kwī yi ga zā' na gi təc dū ha gi ya kō
 te'it dji ni' t'i gi na yəc 'it di si ni' i lil la ta l'əc
 k'a ts'i dji hi t'i gi na ni dac ha gi na t'i gi
 ha kū dji ga zā' kū di lte gū te'i nij 'a li ts'i dal li
 10 gū ka da gū gi nij ha kū dji ga na 'i gim mi ts'ai yi ka
 da ni ma gū ni lin ni kū gi ləc di na gū nas 'in na
 yi l na' i gū
 'is ga kū wa mi ts'ū wa k'a ts'i nis t'as sin na kū yəc
 'i wa t'i gi xa gi nic 'i ta 'is lək ka 'i gis teūt
 15 'i wa t'i gi da teis da l'ū wa ga kū wī ca di si ts'ū wa
 xa ts'i t'as si ha ta gi di dli hi t'i gi gim mi ts'ū wa
 xa te'i t'as l'ū tei di gai ye tsin na gi təc gim mi la tein na
 das l'ū' gim mi ka tein na djū laz 'i lil la ta gis gəs sa
 'is gəs si l ga gi di si l'ū' 'i wa gim mi tean na zā'
 20 has t'i gim mi ga na te'in nis t'ie xa gi ya t'i gi
 gim ma ga ts'it di na ts'i di nis teūs di k'a 'əl la
 gin ni təc te'it di ni dji' zā gi ma zat di ta xa gis tin na
 gim mi ts'ū wa xa te'i t'ac di tei miz za na xa te'i teic
 'i t'ū 'i ts'i l'ū l 'a ki yi na ka ni t'i l'ū l 'i 'i tei
 25 gim mi ts'ū wa ga ni 'a 'i ga di gi 'i wa t'i gi 'a ga na ti gi 'a
 gi gis teūte i lil la ta gi di dli xa t'a k'a ta gi di dli di ga wa
 gim ma ga te'i di djic 'i ki di da zīt da l'ō l 'i gis teūte
 'i wa t'i gi gim ma sit di djic 'a ha gū gin ne dac
 gi teit tei i lil la 'i ki di si ni lil la tei tei mi ka tō l li
 30 t'i gi 'is dū na ha li kū wa gim mi zəm mi l gis teūte
 'i wa t'i gi k'a da gū gi di si xalte 'i da la mi ka teū l
 gi ma lin na ka teō l li na te'i gis nite 'a ga na di gi 'a
 ka tei na na ts'i 'ac 'a t'i gi ka wa xa ni gi yəc
 'i gi ts'ū kū wa na tsən na 'i 'is dū na 'is ga kū wa
 35 gi ni i la t'i gi dū dzən na di na gi li'
 'a t'i gi ka wa na ni teū t'in na tsin na l'ū wa gi ni dja

The center tree nest on it they place. Then what they-offer they place in it. On forked sticks poles leaves with they lean against it. Forked sticks on poles very long there middle tree against they lean. All opposite the-door poles house they make. These fast four days inside only they sleep. He does not go out. They sing then he gets up. He whistles with he dances. They-stop singing then he sits down. Noon then chiefs only they come in. They tell stories. Battles about them they tell. The chiefs their wives food good they bring-in people watching them they may eat.

Young men their breasts who are cut go in. Then they say, "Father, horses may I capture then when sun dance lodge when I go in my breasts they will cut." This way they pray then their breasts they cut. (A weed) they tie around their heads. Their wrists they tie, their-ankles too. White clay with they rub themselves. Belt they tie around. And breech-cloth only they wear. For them they put a lodge. He comes out. Then for them blanket they spread. On this back down he lies. Whistle only is around his neck. While he lies his breasts they cut. Sticks through they stick. From the nest ropes two hang down. The ropes sticks his breasts are stuck through they loop over. Then center post he-embraces with he prays. When he finishes praying for-him they sing. He dances before ropes they pull. Then for him they sing. He dances. Hanging with he whistles with, in vain he tries to break it then other-persons old men his shoulders they take hold. Then backwards they pull him. There it tears out. His flesh which tears out he offers. The center tree its base they-place it. After that he goes out.

The women makes sun dance other young men they go with then not long they live.

This much our Sarsi sun dance its story.

Prayers

hai yū hū' ha li tsa siL tit dī nin na na ga tcaz zī li
 'a ts'i la' hai yū hū' ha li tsa da na ga tcaz zī li
 'a ts'i la' siL tit dī nac na gū la dī na tcaz zī le sa ga la na
 siL tit dī nac na gū la dī na tcaz zī le sa ga la na
 5 gim miL tī dī nas na gū la ha li ka 'a gī na hī hai yū hū'
 'i ta siL tit dī nin na te'a na dī gī ts'an hai yū hū'
 'i ta 'i ts'ag ga k'a sa na dī gīs ts'an da nīs t'ag ga
 kwī yī ga gwa gū nī li dī na 'is Lī gū la hai yū hū'
 'i ta sa ga nī t'a dī tū gū ma sī tī gī 'an nī lai gī
 10 dī nū k'a 'an nī la gī gū k'a djon na dī na
 'i Lī gū la hai yū hū' 'i ta sī gī La ka nī gī t'a hī sa ga
 yī nī nī hai yū hū' 'i ta 'is tēi tēi sa ga yī nī nī
 sa ga nī t'a 'i ta hai yū hū' 'i ta ta nī sin na sa ga
 nī t'a sa gū yī La
 15 na nī' dī na tī ha mī ts'i ta dī sī dī

ha li tsa 'i ta gwa gū nī li dzan na dī na ts'i lī nī
 'i ta sa ga nī t'a yīs djon dza na ts'in nīs k'a dī na
 'is Lī gū la 'i wū' ta gīs k'is sa te'a t'ag ga xa na ts'it dī
 t'i gī nī ts'i gwa gū nī lī nī dī na 'is Lī gū la 'i ta'
 20 dī nī' ts'i ka dī ka la lī la gī djon 'a t'i ga ga
 t'i gī ka wa na ga gū la' 'i tsū 'i na ga nīs tēūt
 'i na sa ga nī t'a La t'a dī nan na i Lī la sa ga
 nī t'a da gū nī tin na ta na nī ts'i dī t'i gī na nīs tcaç gū la
 ts'ā tca 'i na 'i na' hai yū hū' ts'ā tca sī gī La
 25 ka nī gī t'ā gwa gū nī lī nī sa ga gin nin ne 'i na'
 sa ga nī t'a sa ga gū yī L'a hai yū hū' ts'ā tca
 sin na djin na i Lī la dza na dī na 'is Lī gū la

THE HAIR PARTERS¹

ma sī LāL Lī Lī ka dji dī nī Lāç da mil le ta za tēic tcaç sī
 Lī gī sa k'a ts'i kū wa dīs tsī ma gū Lī nī k'as sī 'i gā kū wa
 30 dīs tsī' ta tin na dīs na 'is gā kū wa dīs tsī 'a kī na

¹ Obtained from Pat Grasshopper, who sold the hat the possession of which confers the position of leader in organization. For a free translation see *Anthropological Papers*, American Museum of Natural History, XI, 470-474.

Prayers

Oh, Old man, help me. For you sweat-lodge they-make. Oh, Old man, here for you sweat-lodge they-make that you may help me. These persons sweat-lodge who have made help them. Old men may they become. Oh, father, help me. Thunder may I hear again. Oh, father, birds' voices may I hear again. Sky in happily person may I be. Oh, father, me pity. This water is surrounded by which you made this island which-you made on it long person may I be. Oh, father, my days let them be to the end. Me give something. Oh, father, what I eat me give. Me pity. Father, Oh, father, I am poor. Me pity give me something.

We Indians thus to him we pray.

Old man, father, happily long time person having-been, father, me pity. I may be old. Long time on-earth person may I live. Then hot sun when it-comes up then from you happily person may I be. Father this woman her husband with may she be old. From this time then lodge for you they made. This-tongue to you I give.

Mother me pity. All people with me pity. Every time when you rise then may I see you, Old-woman mother. Mother, oh, Old woman, my days to the end happiness me give. Mother me pity. Me give property. Oh, old woman, my relatives with long-time person may I be.

THE HAIR PARTERS

Wagons they place in a circle. The opening is toward-the overhead sun. On the left side women sit. On-the right side young men sit. Doorway four persons young men sit. Two persons sword in front of them

məṣ gĩ mĩ tsi ta na dĩ gĩ 'a 'a kĩ na na lĩ na gĩ mĩ ga
'is lĩ haL 'a si ta

ma gũ lĩ nĩ k'as si 'as sa teũ 'i teĩ ma ga na dĩ gĩ 'a
'a t'ĩ gĩ 'i teĩ ma ga na dĩ gĩ 'a k'a da ga dĩ 'a
5 dĩj na 'is ga kũ wa 'i dji na mĩ ga dĩl tsi as sa
nĩ teĩ teṣ ga dĩ teĩ ta zi ka si la 'is ga kũ wa ts'ĩ kũ wa
dĩl tsi na gĩ mĩ kĩ za 'a teit L'a dĩ teĩ 'i teĩ na dĩ gĩ 'a
dĩ teĩ sin na t'ĩ gĩ na dĩ gĩ dũL 'i ma ga dĩ ga 'is ga kũ wa
taṇ na k'a 'a kĩ 'i teĩ nĩ na dĩ gĩ 'a k'a 'a kĩ
10 gũ tea da ga dĩ ga 'a kĩ na 'is ga kũ wa 'is ka si
'as 'in na gĩ gĩ zit da gĩs da da ga dĩ ga dĩ na
mĩ ḍan na ta si gũ nən 'is gĩ ya ts'ĩ kũ wa nas 'a si da
tsiL 'aL 'in nĩ dĩ na nən nĩ dac na 'a ga 'i da na dĩ teic cĩ gũ
has dũ gũ na k'a si da 'is ga ka nĩ tsa teĩ dĩ nĩ teĩ
15 'aL 'i nĩ sit da ma ga teĩ dĩ dji nĩ t'ĩ gĩ ta dĩl ləte
ləm mən na nĩ dac dic gũ ləm ma nĩ da t'ĩ gĩ 'i dic nĩc
mĩ ga nĩs ka ne 'as 'in na si da ts'ĩ kũ wa nĩ la ga
'is lĩ ha la 'as 'in ne ts'ĩ ka si da 'is ga ka nĩ tsa
da nĩ 'as 'i na si da 'a sa 'as 'in na 'a teit L'a
20 sit da 'is t'ən nĩ 'as 'in na lĩ ti gĩ 'as sa 'aL 'in na
ga si da 'is gĩ ya ts'ũ kũ wa gō 'a 'a 'i lin na
lĩ ti gĩ ts'ũ kũ wa ga sit da la ka za 'is gĩ ya gō wa
tũ 'i na kac na 'as sa ga sit da 'as sa nĩ teĩ teṣ ga
'is la 'i lil la mĩ ga sa 'a mĩ ga 'is gĩ ya sit da
25 nĩ da na 'a teit teũt da kũ la lĩ kĩ na lĩ nĩ 'is taṇ nĩ
'as 'i nĩ 'a teit L'a gũ t'a sit da 'i teĩ nĩ tsiis dĩ
ta gĩ til

'a kin na 'is ga kũ wa ma si ləL i 'a lik ka lən na
mas gũ lĩ ka kĩ yĩ dĩ gĩ ləc gũ t'a gĩs da lĩ ti gĩ na
30 'is ga ka ka wa tsin nĩ da t'ĩ gĩ na gĩ nĩL tite 'as kĩ za
gĩ nĩL tie lĩ ti gĩ 'is ga ka nas 'a ga kwĩ yĩ ga sin nĩ da
t'ĩ gĩ kwĩ yĩ ga 'i gũ dja na gũ gĩ la ləḷ gũ gĩ dĩ gic
'i tin na 'i xa gĩ la tal kwĩ yĩ ga la nĩ ti* gwa gũ gĩL 'ic
'i l'ĩ gĩ sin nĩ da t'ĩ gĩ 'i k'a tũ kĩ da da gĩl gũ 'i
35 dĩ na 'is ga kũ wa 'i dji na 'i ta za ka na gĩ mĩ teĩ ləc
'i wa t'ĩ gĩ 'as sa sit L'a dĩ gĩ 'i L'ũ tsin mĩ ga
teit dīs k'əte 'i wa t'ĩ gĩ ma ga gĩ teĩ ləte

stands in the ground. Two persons others beside horse-whip lies.

Right side big drum sticks for it are stuck in the ground. Then sticks for it stuck up on it hangs. Four young men who sing beside it they sit. Drums small four in the middle lie. Young men women who sit between them opposite the doorway four sticks stand up. Four hats tall hang. Young men behind two sticks stand up on two tails hang. Two young men belts who own in front of them they sit. Where it hangs those among who dance give order young man women in front he sits.

Axe who owns those who dance for them he fills-their pipes beside the speaker he sits. Young men among whistle who owns sits. For him they sing then he dances. He dances around a circle. Four times he has-danced around then he whistles. By him shield who-owns sits. Women at the end horse whip who owns woman sits. Men among gun who owns sits. Drum who owns opposite the door he sits. Arrow who owns same place drum who owns by he sits. Young man women work who are same place beside women he-sits. One young man to them water who takes around beside drum he sits. Pail small cup with beside-him stands. Beside him young man sits. Those who-dance he brings in food. One another arrow who owns opposite the door among them he sits. Sticks long he holds.

Two young men wagons who gather like a ring they put in a circle, among them they sit. The same young men tipi they dance then they put up. Side-by side they put them up. The same young men house inside they dance then inside good they make it. They sweep. Rubbish they take out. Bed blankets inside they put around. They make it. At night they dance then lamps in they put (oil). These young men who-sing in the middle they put them. Then drum small this sweet grass under they burn. Then to them they give them.

- na gī dīc ga līl la dī dji xin ʔī gī dī yite mīl
 gū t'a xin ʔī gīt dī gī t'i gī ts'ū kū wa dij na
 sin na tī gī ʔas ʔī na na dīlte ʔī wa ts'ū kū wa la t'a
 ʔas nī tsa na gī dīlte ts'ū kū wa na ʔī dal dī kō wa
 5 la t'a ʔis ga kū wa na dīlte na gī dal dī ga wa la t'a
 ts'ū kū wa gī dji ts'ū kū wa ʔī dī da hī tī ʔis lī ha la
 ʔas ʔin nī ʔis ga kū wa ts'ū kū wa kī za gū dī la ʔī wa
 dīc gū mas gū dī ma tēi nī dac dī nī ts'i ka ʔis lī ha la
 ʔas ʔī nī gū na sī ʔī dī dac ts'ū kū wa ʔis ga kū wa
 10 ʔa k'a sī dan na dī nī ts'i ka ʔis lī ha la ʔas ʔin nī
 gūl ha la tī gī ts'ū kū wa ʔis ga ka yīs ha la na ʔī ʔis lī
 gū wac tātē ʔī wa ʔī sa ga gī tī zī dī t'i gī dū gū wa yī nīte
 has da gū na ʔī ta za ka ʔī dī dac ʔis ga kū wa
 ʔis lī ha la ʔal ʔī nī na yū wū k'as sī na kī sit ts'ū kū wa
 15 ha gī yī na ts'ū kū wa dīl tsī ʔī k'a sī ʔis ga kū wa
 mās ʔal ʔī nī na na zit ʔa t'i gī na djū ts'ū kū wa
 ha gī gī na ʔis ga kū wa sū kū wa ʔī la ʔīl teū na
 win nī t'ān na k'a gī mī teis cūz dū kin nī da kū k'a tsin nī da hī
 t'i gī dī na ʔis ga kū wa ts'ū kū wa ʔī la tēi na gūl teū dī na
 20 ta za k'a na gī mī teis cūz has da gū na ʔī nai yātē
 ha nīc lai yī ka dī nī ta za k'a sīt da yū wū
 ts'i ka ʔī la tein na gūl teū tea ga na dāt tsa la t'a
 mī za nal t'a mīl la ta dal la ʔī wa t'i gī la t'a
 mīl la ta tēi dī ʔate ʔī līl la mī za sin nī tātē ʔī wa
 25 ha na tēi cūj dī nī has da gū na hī ha gūl nīte
 da ha na gūl na hī gūl ha na dja na gū lī la da las gū la
 dū na nāl da ha ʔa ʔī wa dīs gū ts'ū kū wa ta dī dīlte
 ʔis ga ka djū dīj gū ta dī dīlte ʔa t'i gī kō wa ts'ū kū wa
 ʔī līl la lū ka ta na teit dī dīlte
 30 dīc na ka t'ū na ga gūl ʔa lī gī dal na sit dī gī ma ga
 ta za k'a na teis teū cī k'a gī dī nīl teite ʔis ga kū wa
 dij na gī ma ga dī dji na na dīlte dī dji xin
 gī ma ga ʔī tēi dīl gite mīl gū ta ʔī t'i gī ʔī gī dī date
 yū wū sin na tī gī na dī gī dūl ʔī dī dji tsī
 35 ʔī gī dī date ta za k'a da nī ʔī wa gū teis gī ma ga
 na teil lātē gī gīl teūte tee gū na gī gī dīl lātē sī dan na
 sit l'a nī tea wān na ta za k'a gī nī dac gwa gī mī teie ʔie
 dī na ka t'ū na ga ʔī sit da ʔī gī mī ga ta tēi nī date

They stand while four songs they sing. Then among the songs they sing then women four hats who own get up. Then women all afterwards get up. Women after they get up all men get up. After they get up all women sing. The women they dance horse-whip who owns young men women between he-places. Then four times like a ring they dance around. This woman horse whip who owns opposite way she-dances. Women young men still who are sitting this woman horse whip who owns strikes them hard. Women men whom she hits horse she gives them. Then they become angry then she does not give them.

The one who speaks in the middle dances. Young men horse whip who own yonder side (outside) they stand. Women who looks after women they sit that side young men sword who own stand. Those too women they look after young men women her hand who holds behind the ring they pull them they may not dance. They finish dancing then these young men women their hands who held in the middle they put them. The speaker gets up. He says, "My friends, this person in the middle sitting yonder woman her wrist because he held he is foolish. All his mouth kiss, his hand shake." Then all his hands shake with his mouth they kiss. Then they take him out. This one the speaker tells them "Do not do that again. Who does that again if there is one never he will dance again. Then four times women they dance. Young men too four times they dance. After that women with together they dance.

Four men who have fought blanket for them in the middle they spread on it they sit. Young men four for them who sing they get up. Four songs for them they sing then fifth then they begin to dance. Those hats high four toward they dance. In the middle guns and scalps for them they put on the ground. Then one who captured them takes them up. Boy small large middle he sits they make. These men the boy by them he sits. Knife with they cut him up they pretend. His-

- m̩as ɛ̃ Lil la ta k̩i m̩i t̩eɪ t'ac gwa t̩eɪ d̩i ɛ̃c g̩i m̩i t̩eɪs
 d̩jũ tsit d̩is t̩eũL gwa t̩eɪt d̩i ɛ̃c d̩is gũ g̩i ma ga
 n̩i na sin n̩i da h̩i t'ĩ g̩i ha na gim m̩i t̩eɪ ɛ̃c s̩it da ɛ̃
 d̩i na dij na ka t'ũ na ga ɛ̃ ɛ̃is l̩ak ka ma ga t̩eil l̩ate
 5 ha g̩i na d̩i t̩eɪ na t̩i g̩i ɛ̃ t̩eɪ na g̩i d̩ie g̩i g̩il La na d̩i d̩ate
 gũ g̩i n̩ite t̩eɪ t'ĩ g̩i
 ɛ̃ wa ɛ̃is Le gũ t̩sis da n̩i ɛ̃ c̩ic t̩eũ g̩i n̩i t'ĩ g̩i
 g̩i ma ga ɛ̃as sa t̩eic hal̩te d̩i na z̩i sis g̩i g̩i n̩ite
 n̩i l̩an n̩i t̩ea k'ĩ t'in ne ka gũ k̩i n̩ite gũ lat d̩i gwa l̩i g̩is dal
 10 d̩jũ g̩i n̩ic n̩i l̩an n̩i ɛ̃is l̩ak ka d̩jũ ɛ̃ c̩is t̩eũ d̩jũ
 g̩i n̩ic ɛ̃a t'ĩ g̩i ko wa sũ kũ wa g̩o ɛ̃a ɛ̃ t̩si ma t̩i g̩i ɛ̃
 da ga na d̩i l̩ate sũ kũ wa m̩i t̩sin na' t̩i ga na t̩si la ɛ̃ na
 ɛ̃a na g̩i d̩il d̩il̩te ɛ̃is l̩ak ka gũ s̩il a ma gũ n̩i lin n̩i
 ɛ̃a na t̩sit d̩il d̩il ɛ̃a na t̩sil d̩il d̩il ɛ̃ n̩i La ɛ̃a t'ic
 15 has da gũ na ɛ̃ ɛ̃is g̩a kũ wa hal̩ n̩ite na n̩i ɛ̃is t'a
 ta das dal ɛ̃a na d̩al d̩al gũ s̩il a ɛ̃ s̩i n̩i y̩i n̩i zin na
 ɛ̃is l̩i gũL ɛ̃a na d̩al hal̩ ɛ̃is l̩i gũ ɛ̃ t̩eɪ da ɛ̃ l̩i t̩i g̩i
 na t̩sil la
 La ka za gũ ɛ̃is g̩a ka ta d̩il l̩ate ɛ̃as ts'a gũs t̩i ga
 20 ɛ̃as sa ɛ̃as ɛ̃ n̩i ta d̩il l̩ate m̩i t̩sis d̩i na ɛ̃is ka se
 ɛ̃as ɛ̃in na ɛ̃ ta g̩i d̩il l̩ate ɛ̃is ka s̩i ɛ̃ t̩s'ĩ na g̩i d̩i d̩ate
 ɛ̃is dũ wa xin ɛ̃ Lil la ka g̩i d̩il l̩ũte ɛ̃ wa La g̩i d̩i d̩ate
 dij gũ na g̩i n̩i d̩ate ɛ̃is ga s̩i ɛ̃ da ga na g̩i d̩il l̩ate m̩as
 ɛ̃as ɛ̃in na ɛ̃ na g̩i n̩i d̩ac gũ k'a La ka z̩a ɛ̃is g̩a kũ wa
 25 t̩eɪ s̩i l̩i ka sũ kũ wa t̩eɪs i ɛ̃ g̩i d̩i d̩ac ɛ̃al t'as s̩i
 ha na g̩i n̩i d̩ate dij gũ ha g̩i t'ic m̩as ɛ̃ zil l̩ac c̩i
 ta g̩i y̩i y̩is n̩i
 ɛ̃ wa dũ g̩o wa g̩i g̩i n̩ic na g̩i n̩i d̩ate ɛ̃is La ha La
 ɛ̃al ɛ̃in n̩i na ɛ̃ ta g̩i d̩il l̩ate La t'a ɛ̃al n̩i t̩sis g̩i n̩i da
 30 sũ kũ wa ɛ̃is g̩a kũ wa z̩i da dij gũ ha g̩i d̩ite
 na g̩i n̩i d̩ate ha g̩i na t'ĩ g̩i has da gũ na ɛ̃ ta d̩il l̩ate
 l̩i k̩i z̩a ɛ̃ l̩i ta l̩ate t̩sil ɛ̃al ɛ̃in na ɛ̃is t'a
 ta d̩il l̩ate dij gũ La ma n̩i d̩ate ha na t'ĩ g̩i na n̩i d̩ate
 t̩eɪ d̩i n̩i t̩eɪ ɛ̃al ɛ̃ n̩i ɛ̃is t'a ta d̩il l̩ate ɛ̃a ka gũ
 35 da ma n̩i da t'ĩ g̩i ka wa t'ĩ g̩i ɛ̃ d̩il n̩ite ɛ̃ wa
 ɛ̃ d̩il n̩i t̩i k̩o wa La t'a ɛ̃is g̩a kũ wa na n̩i d̩ate k'a
 s̩it d̩an na t̩eɪ d̩i n̩i d̩j̩i i Lil la gũL hal̩ ha gũ la t'ĩ g̩i
 gũ ga g̩i n̩ic dij gũ ɛ̃ d̩il n̩ite ɛ̃ wa na n̩i d̩ate

scalp too they take off they pretend. Four times to them they dance then they do that again. The boy these four men horses him they give. When they have done that hats they put on with them they dance around. They tell stories.

Then "Horse, scalp, gun I captured," they say then for them drum they hit. "Person I killed" they say. Many different things they have done they tell about. "Many times I fought too," they say. "Many horses too I captured too," they say. After that women who works for hats they hang up women their hats which had been taken down.

They give away property. Horses, clothes good they throw away. Those which are thrown away many get them. The speaker young men he says to, "Your turn, you dance. You throw away clothing. Those (?) who wish horse even they throw away. Horse for sticks any same place they put.

One by one young men they dance. First very drum who owns dances. Next to him belts who own they dance. The belt toward it they dance back and forth. Different songs with they tie around their waists. Then they dance around a circle four times. They sit down. Belts they hang up again. Swords who own they dance. By it middle young men toward one of women toward they dance. Past each other they dance. Four times they do that. The swords upwards they hold.

Then they quit. They sit down. Horse whip those who own they dance. All one after the other they dance. Women young men in front four times they dance that way. They sit down. They do that then the speaker dances one being he dances. Axe who owns in turn dances. Four times he dances around. He does that then he sits down. Whistle who owns in turn he dances. Twice he dances. After that then he whistles. And when he whistles all young men get up. Still who are sitting he whistles when he hits. He does that then to them he gives something. Four times he whistles. Then he sits down.

- 'is t'an nī 'aL 'in nī na 'is t'a ta gī dil l̥atc 'aL k̥at dī
 'ī gī na da' hī Lil la 'iL t'an nī 'ī 'is g̥a ka 'ī wa
 sū kū wa nī ga yī ga 'is t'an nī l̥ak ka til
 'ī da dī teil na la nī ga gī dī teij dij gū la ma gī nī date
 5 gū nī ha dī tsin na 'ī has da gū na' ts'ī na y̥atc
 ha nīc yū wū nī ma ga dī nīs tsī 'is Lī 'is Lī g̥al la
 ma ga nīs la
 'is g̥a kū wa na gū t'in na 'ī 'is t'a ta gī dil l̥atc
 dij gū la ma gī nī date tū wa na ya tei na ta dil l̥atc
 10 'as sa ta gī yīs nī hī 'ī Lil la dij gū la ma nī date
 'ī wa nīs ka ne 'aL 'ī nī 'is t'a dij gū la ma nī date
 ts'ū ka 'ī 'is Lī haL a 'as 'in nī 'is t'a 'as nī tsī
 ta dil l̥atc la t'a 'is g̥a kū wa 'ī gī gī Lil la ta dil l̥atc tei
 xin 'is dū wa da lin ne gī ma nī ta 'ī wa dij na
 15 'is g̥a kū wa ta zī k'a nī na teil l̥atc xin 'iL k̥as na
 mī k'as sa dū 'is da nan na sū kū wa 'a ga dī djin na
 gī dī dji hī t'ī gī 'is kī ya sū kū wa gū 'a 'a 'ī
 sin na tī gī 'ī na l̥ac sū kū wa sin na das tī 'ī sū kū wa
 zit da 'is gī ya 'ī 'ī na da tea t'ag ga na dī teis tei k'a sī
 20 gū nī ga da' 'is gī ya Lī ka na dlī nī 'is Lī ha la
 'as 'in ne 'is g̥a kū wa sū kū wa gī za gū dī la ts'ī ka
 'is Lī haL a 'as 'in ne gū nas sī na dī dac dij gū
 la ma na sin nī da t'ī gī 'is gī ya 'ī tsin na tī gī 'is dū na
 sū kū wa tein na na dīs na mī g̥a nī na dīl̥tc la t'a
 25 sū kū wa 'ī tein na dīte 'a t'ī gī kō wa 'is g̥a kū wa
 'is t'a la t'a sin na gī yī tite la t'a 'aL tcis se
 gū nīs na tī gū ta tei dī dīl̥tc tsin na tī gī 'ī 'ī Lil la
 'ī wa t'ī. has da gū na 'ī nai y̥atc gū n̥al 'in nī na
 'ī hac nīc da nī mīL tsin nī da' hī 'ī wū sis sī daL a
 30 mī tsis na 'ī wa t'ī gī has da gū na 'ī dī gī gū sīL a
 'ī wa 'is l̥ak ka 'ī djū gū n̥as 'in na 'ī ha gī la 'ī wa
 'is g̥a kū wa 'a kī na 'ī da nī kū gī l̥atc mīL na tsī nī 'ī
 xin dī dji 'ī tei dī yīc gū wa teis teū tī t'ī gī hau
 tei nite dū 'is nin na la la t'a da nī 'ī
 35 gū ka na teil l̥atc dī gī da nī 'ī 'a tsin nīs ta t'ī gī
 la t'a 'is Lī gū ga teis t̥atc dū 'a tsin nīs t'a t'ī gī
 gū nī 'is Lī gū ga teis t̥atc na tsī kwī yī t'ī gī
 gim ma ga teic t̥atc 'ī wa dū ha tsin na t'ī gī la t'a

Arrows who own in turn they two dance. One behind the other they dance then arrows young men and women their eyes below arrows they hold. Who moves away immediately their faces they poke. Four times they dance around. Their faces who pokes speaker toward he walks. He says, "Yonder person's face him I poked. Horse saddle him I give."

Young men who work in turn they dance. Four times they dance around. Water who brings he dances, pail holding up with four times he dances around. Then shield who owns in turn four times he dances around. The woman horse whip who owns in turn last of all she dances. All young men with her dance.

Songs different kinds all have. Then four young-men in the middle they place. Songs who sing their-voices do not give out women for them who sing they-sing. Then young man women worker hats he takes-down. Women he puts them on. Women in front young man he dances. Sun the way it goes he leads-them. Young man one another horse whip who owns young men women between he places. Woman horse-whip who owns the other way she dances. Four times when they dance around then the young man hats other women whose turn to wear them beside them they-stop. All women wear them then young men in turn all wear them. All together one hundred times they-dance hats with.

Then the speaker gets up. Those who own them he tells, "Food with the dancing you bring. We are going to eat." Then the speaker these clothes and horses too those looking on he gives to. Then young men two food they bring in then they take it-around, songs four they sing. By them they put food then "hau," they say. Who does not say it immediately all the food by him they put down. This food they-eat up then all horse to him they give. He does not-eat it up then he himself horse to him he gives. He-vomits then to him he gives it. And he does not vomit

gū wa teic teūz ʔi ta si tū wa gū nis nən ni ʔas sa kit da
 ni tsi t̃as se La ka z̃a has t̃ag ga ko wa teis tic
 ma di wū tsa ga gū ta ʔi tei has t̃ag ga da ni ti dū ti ga
 ni La dji dja ta gi gū yi ʔas sa gū t'a kit da Li ki
 5 da ni gū nas ʔi na ʔi ha teic teūz
 k'a t̃sis na t'i gi sū kū wa ʔi wa ʔis ga kū wa ʔaL na
 na gi ni dac di dji xin k'a na tei gi hi t'i gi ʔaL na
 has dū gū na ʔi nai ỹatc ha n̄ic k'a na na dac ʔis ni
 t'i gi na tei di t̃c miL ha na t̃si dal ʔi gi na ʔi tei di yic
 10 La na ha di ka na sin na ti gi gi ma ga tei ʔate gi Lil la
 di j gū da mil le ʔa na tein ni dac miL di dji ʔi t'i gi
 ʔiL ha na ỹatc ʔi wa t'i gi ts'ā ʔa miL ʔin na na
 ha na tei ʔac ʔi wa t'i ta na tei di t̃c ha di ka na ni dū wa
 t'i gi mit sin ni t'i ga naʔ ʔiL ha na gū ni gi dac

List of Dance Properties

15 Li ki z̃a si na ti gi di t'ən ni teaʔ tea kū yic ga ti ga
 ma ga ni La ʔi wa m̃as ʔi na mi ʔi mi ka gū
 ni gi s L'ū si ma ga da gi L'ū mi tein na ga da gi L'ū
 ʔis tea zi t'a ga ma ga da gi L'ū
 ʔi wa ʔis Li haL a di t'ən ni tea di dji ma ga
 20 da gi L'ū di na sis ga na z̃a' ma ga da gi gi L'ūc
 di na di Li na ʔiL haL na djū ʔi ga da gi gi L'ūc
 da ni ʔiL teū na z̃a' gū wa ʔis La haL a di Lic
 ʔis Li haL a ʔi k'a da ni tei di Lic na mi ya di ka da
 ka gi t̃c̃al da mi Lū la gū da tei gi L'ūc tea kū za ga
 25 mi k'a siʔ da di s t'a ʔa teis ʔic
 ʔi wa ʔiL t'ən ni gū siL a mi ka di gi s di z gwa teic ʔic
 ʔis t'ən ni ʔi ʔaL t̃c̃ən nis kaL mi ni la g ga ʔa ki di t'ən ne tea
 da gi L'ū
 ʔi wa nis ka ni ʔi gū ỹan ni ʔi gi s La ʔi tei
 30 di ma tsa ga mi t'a yi dji tic di dji di t'ən ne tea
 ma ga da gi L'ū Las teū ʔi Lil la La t'a tas teiz ʔi wa
 La yi ga teis ti ʔis ga ka ʔa giL ʔi ni naʔ La t'a gū t̃si ta
 Las teū ta t̃sis t̃c̃ai
 ʔi wa tea si za li ʔi tea si da mi t'̃ag mi tea ʔa k'a
 35 ni gi s teac teū hwū wa ʔi Lil la

then all they take the food around. Tea ten pails in. Bread one sack for them they bake. Crackers five boxes, beef not very much, berry soup pails five in. Some food those who look on they give.

They finish eating then women and young men in turn they dance. Four songs they finish singing then in turn the speaker stands up. He says, "You make an end of dancing," he says then all get up then they go out its song they sing. One of them who has been wounded hat to him they give. With it four times entrance he dances up and back then after the fourth time with he goes out. Then outside to the owner he gives it back. Then they go home. Wounded person there is none then whose hat it is with he leads them out.

List of Dance Properties

One hat hawk tail, weasels very on it many. And sword otter skin on it sewed up to it tied on. Its handle tied on hawk feathers on it are tied.

And horse whip hawk tails four to it are tied. Person who has killed only to it ties them on. Person somebody who has whipped too to it he ties the on. Gun who has captured only for it whip paints. Horse whip on gun he draws. Otter skin beaded stripped long way for the handle they tie on. Weasel skin along it in bunches they make it.

And arrow beads on it they twist around they make it. Arrow forked at the end two hawk tails they tie on.

And shield deer skin stick circle inside they place. Four hawk tails to it they tie on. Yellow paint with all are painted. And across the breast young men who own it all their bodies yellow they paint them.

And crow neck lace crow its wings, its tail on it is beaded porcupine quills with.

ɛi wa ɛis ka si ɛi di t'ʌn ne tca mi t'ʌg ga ni Lūl da
 gū sit L'a mi ka di gis tiz gū tca gū ha gi ʼa ʼa teic ɛic
 tei gi ca ma gū ni lit da ɛi kic gwa gū teic ɛic ma ga
 da ɛi da tsa tsa da ʼa teic ɛic

The Dog Feast

- 5 na ni dac na mi na dji na ti ga ʼa gū ti la t'i gi
 ha nie li cai gis la hi di ni di na gi la ɛi wa gū wa
 ta tsī di dli li tca ni tei tca da ta la tei yi L'ūc sa kū wa
 gūL gas na cai gūL ɛic mi ni gi kū ʼa ka teit di ɛi ləc
 ɛi wa ha teit die k'ate ma ga tsī gi na ʼat teiL ɛite ʼas sa
 10 ma gū ni lit da ki da teiL ləc dij gū mi tū na tei die gūc
 ʼa t'i gi kō wa li ka ni mi ki da teic gūc sū kū wa
 cai gi lən ni ɛi di gi ga kwī yi ga ʼa Lū gū sa ʼa
 tca na ʼas tca tsin ni da da ni miL tsin ni da hi ɛi
 mi da ka ni ja ka ga si la ʼa teic ɛic has da gū na ɛi
 15 ha nie ɛi wa li ɛi kwəL a tei jū ni ʼəL ɛi ni gi ts'i
 di yəc ɛi wa kū tei ləc dū la na tsī ʼa sū kū wa
 gū ʼa ʼa ɛi L'ū tsin yi ga tsit di ta gis k'is ɛi k'a
 na gi ʼac L'ū tsin na tsī ʼa ziṭ da tsī yi ga
 ta mi tei die nie ta za teij ti gū ts'i ta mi teit die nie
 20 la ga teiz di gū teis ɛi djū ɛi wa win ni t'as si djū
 ta mi tei die nie li ɛi na tei di ʼate L'ū tsin na tsī ʼa hi
 ni da tats tsa ʼaL dij gū mi ts'i na ka yi tsa ʼaL
 ʼa t'i gi ko wa mi ga na gi tei ʼate sit di ʼka hi ma gū ni lit da
 mi ka ta teic teūc ɛis ka si ʼaL ɛin na li ki zā ma ga
 25 ta tin na tsī di na teic teūc ʼa t'i gi k'a ni date
 gi mis kas sa gi mi na ka na tei ləc
 dij na ka t'ū na ga ʼa teit L'a gi di nil teite ʼas sa k'a
 li mi ki da si la ɛi tsit di ɛi k'iz za na teiL teūz ɛis ka si
 ʼaL ɛi ni ma ga tei di teite na ni da hi t'i gi ʼa ka gū
 30 ʼas t'a si ɛi di dac ɛis ka si ʼat di na ni dac dij gū
 ha t'ic ʼa t'i gi ko wa ɛis dū wa xin ma ga na teit di yic
 ɛi wa yi ts'i ɛi di dac ta gū yi ɛi nan ni dac miL
 di dji ɛi t'i gi yi ni gi ni da ga t'a ka ɛi di dac ɛit di da
 ziṭ da ɛiL t'ʌn ni mi ga tei tite li ta zil la
 35 kit da teic di ni ka t'i ne ɛi ni la ga sit da ʼe za ka

And belt hawk tail its feathers long ones beads
twisted around like a tail sticking out they make. Cloth
good hanging they make. On it in rows crosswise
they make it.

The Dog Feast

Those who dance their relatives very are sick then
he says, "Dog I will make feast this person may be-
well." Then for him he says a prayer. Dog small
they hang. Woman who is neat cooks it. For it fire
for it they kindle. Then they burn the hair off. Care-
fully (?) they do it. Pail good in it they put it.
Four times its water they pour out. Then sugar they-
pour in. Women who cook it their tipi inside they-
leave it.

Long time first they dance. Food with they dance
for it few lies there they make. The speaker
says, "Then dog bring in." The sword who owns
to it goes. Then he brings it in. He does not put it down.
Woman who works for sweet grass under it charcoal
burning on it he puts. Sweet grass he puts it before
last he holds it up. Noon place toward he holds it up.
Where it sets toward too. Then toward north too
he holds it up. The dog he puts down. Sweet grass where-
it is they hold it above. Four times to it they move it
then beside it they put it down. On blanket good one
on it they spread down. The belts who own one of them
for him before the doorway blanket they spread. On that
he sits. His belt beside him they put.

Four men opposite the door they sit down. The pail
dog is placed in blanket one side they move. Belts
who own for them they sing. He dances then twice
back and forth he dances. Belt without he dances.
Four times he does that. Then another song for him
they sing. Then to it they dance. Three times the side-
of it he dances then the fourth time to it prairie-
chicken like he dances. He starts dancing before arrow
to him they give. Dog soup he pokes it in. This man

- kū gī teite gū na sa ta dī yac ʼis dū gū ta na dīl ləte
 ta gū yī ʼin nən nī date mīl dī dji tʼi gī nī da ga tʼa ka
 na dī dac lī ta zī la ʼi kit da naḡ gī teite ha dī ka na
 tʼi gī gū wūs la dat tsū ka gīl dīte dij gū ha tʼie
 5 dij na ka tʼū na ga dīs tsin na ʼi hac ʼie lī tea ʼi
 ʼil tʼan nī ʼi līl la ta ka sil la mās ʼas ʼin na yū wū
 dij na ka tʼū na ga ʼi nī tei tea gī ma ga yī teil teūj
 gū nī la ga sit da na ʼi lī tsī tsin na ʼa teil teūj ʼi wa tʼi gī
 gī ḡat tei gū dīl dūl lī tei tsin na ʼi ta za kʼa na tei ʼate
 10 ʼi wa tʼi gī ʼis ga kū wa sū kū wa la tʼa lī ʼi
 ʼi teis na da nī ʼil lū ka na tsin na ʼi teis na ʼi
 ʼi nī kī sū kū wa tei na tī gī ʼal ʼin nī na ha nīc
 ʼa dī na ka ʼi sī na ʼa tʼi gī ko wa la tʼa hau tei nīc
 dū hau ʼis nīn na la tʼa da nī ʼi ma ga teil ləte
 15 ʼi teis na zit da xin gī ma ga ʼi tei dī gīc sū kū wa
 sī na tī gī ʼal ʼin nī na ta gīl ləte ʼa tʼi gī ko wa
 na gī nī date ʼa tʼi gī kō wa ʼi tsī na la tʼa ʼa tʼi gī
 lī tsī tsin na ʼi tsʼi dī date dij na ka tū na ga ta za kʼa
 dīs tsin na yī tsʼi ʼi dī dac lī kī za ʼas tea tei dī teite
 20 la tʼa ʼis ḡa ka na i dīl te ma gū lī nī gū la zil lās ʼi
 ta zit da nī tei jīl te dji na tei dī nī dji te ʼa tʼi gī kō wa
 lī kī za ka tʼi nī ʼi la ma dī date ʼil tʼan nī ʼi līl la
 dij gū mī tsī tsin na ʼil tʼan nī ʼi līl la kas gū
 ma na dji kīc dij gū dī na ka tʼū na ga ʼi ha kī tʼie
 25 la tʼa ha gī nī da ha gī mī ka ʼa na tsit dīl dīl te
 sī nī yī nī zin na ʼis lək ka ha na teit dīl hal te tei jū nī
 ʼal ʼin na ʼi tei gī ca sit tən na ga ʼi līl la la ma dī yac
 lī tsin na ʼi mī kī da tsī la
 lī ca la hī ʼi nī zin nī na ta sit dī dīl hī ʼa kū cən na
 30 mis tʼū tī ʼa gī tīc gī ma ga ta sit dī dīl gū na sa
 gī na dac gū ha gī nīc dī nī lī ʼi nī zin nī
 gwa gū nī lī dī na ʼi lī gū la dī na tei na ʼi līl la
 sī na tī gī ʼi ma ga sit dī na sī dī nīl(s) teūte ʼa tʼi gī
 yī kʼa sin na tī gī na teil ləte sī na tī gī ʼi ʼa ga
 35 ta tsī dī dīl ʼa tʼi gī mī yī ga lʼū tsin teit dīl kʼate
 ʼi wa da ga na tei dīl ləte
 la ka kʼa tsis na tʼi gī dij na mī tsʼi dī dīl te
 ʼis kas sī ʼi nī na tsil la tʼi gī ta tin na gī gī līl la
 ʼas da dīl te ta za teiz dī gū tsis ʼi na gī dīl te ʼi wa

at the end who sits his mouth he pokes it in. Before him he walks. Again he dances. Three times the side of it he dances then four times prairie chicken like he dances. The dog soup in he pokes, a wounded person then his cheek he wipes it on. Four times he does that. Four men who are sitting he does it to. Dog arrow with he takes out. Sword who own those four men small-pieces to them he gives. At the end who sits the dogs-head he gives. Then they take the meat off. Dog its-head bone in the middle they place.

Then young men, women all dog they eat. Food with together they serve. Those who eat for them women hats who own says, "My friends, let us eat." Then all "hau," they say. Not "hau," who says all the food to him they give. They eat before song for it they sing. Women hats who own dance. Then they-dance. Then the bones all there dog head bone toward they dance. Four men in the middle who sit to it they dance. One first they sing. All young men stand up. Right hand upward they hold they shout. They sit down again. Then one man dances around a-circle. Arrow with four times its head bone arrow with gently he pokes. Four times these men do that. All while he dances on them they throw away. Those-who want to horses they throw away. The sword who-owns cloth thin with he goes around. Dog bones on it they put.

Dog who makes feast who are called on they pray. Who knows how pipe they give. For them he prays. In front of him they sit. For them he says, "This dog who called on happily may he live his relatives with." The hats for them blanket they spread. Then on it hats they put. Hats for they pray. Then under them sweet grass they burn. Then they hang them up again.

They finish eating then four to it go. Belt they-bring back in, then doorway with it they stand. Noon toward they stand. Then sunset toward. Over there toward north too. Then they come in. Belts who own

La ga teiz di gū tsis 'i yū wū' win ne t'as si djū
 'a t'i gī kō wa kū gī dilte 'is kas si 'al 'in nī na 'i
 ka La gī gī dil teite gī mī nək ka tsit di na tsit di nī late
 'i wa 'is kas si 'i da mī tei dil late 'i wa t'i gī gī gī ma ga
 5 di dji xin 'i teit di yie gim miL Lil la gim mī kal-
 teit dil L'ūte 'a t'i gī kō wa La na gī nī dac ha gī na
 t'i gī La t'a 'is ga kū wa mī Lil la ka tei dil L'ūte
 'a t'i gī kō wa ma na teit late 'i wa ha na teil late ka wa
 kū na teil late 'is ka si tei na ti gī 'i Lil la gū tsil la si
 10 t'i gī tein na teil tite La teit di date
 mī li tei ka nī lan na 'a t'i gī na ka gī mī tei die cūj
 sin na ti gī 'al 'in nī na k'a gī nī dac gwa gī mī teil 'ite
 kī gī dji ma gū nī lit da gī ma ga teil teūc 'i wa
 'is La ma gū nī lit da gī ma ga teil late tsī di ka hī da
 15 gī ma ga tei gī nie ka da nīs teac da gī ma ga
 tei gī nie tsō la gī mī tsō la gwa teic 'ie gī ma ga
 teit di teit 'i wa ta gī mī tei di yī late gū k'a na gīs nī
 'i nī zin na gū ka ta gī dil late sū kū wa sil la sin na
 gī mī ka la k'a gī mī k'a ta dil late 'is lək ka 'a kī 'i ka ka wa
 20 ta kī ka ka wa ma gū nī lin nī k'a na tei gīL nite gū zil La 'i
 ti ga nī La na tei gīL nite ka tei dji hī t'i gī sa kū wa 'i
 na gī nī date tsil la sin na 'i gī ma ga gū tei nij
 si na ti gī 'i Lil la gū tsil la si t'i gī di dji 'i L'i gī
 ti za tei nī date 'i wa di dji dji nī si ha 'i tsī nī da
 25 ha gū za
 gūL 'a Lī dal na zā 'a t'i gī na tsin na ti ga nī dō na
 zā zin na ti ga sin nī da ta miL na xin na tsī 'a miL
 ha kū tei ga sil lī miL gū sil la si t'i gī Lī kī za
 di na ta lək ma ga yī tsī 'a na ma gū Lī nī gū la
 30 tein na 'i Lil la na gū tei cūj dij gū La ma gū teic cūj
 gū ga gin nī dac gū la sin na ka 'i wa t'i gī gū tei nī teite
 di ka ha lī tsa ha 'i Lil la La t'a gū nī gū wūs La da tsū k'a
 mas gū ta Lī gī tsa tei di Lie 'a t'i gī kō wa na tei yate
 gū la sin na djū nai yate gū wa djū djin dij gū
 35 La tei nī date 'a t'i gī kō wa na tei nī date ta zī ka
 tsis da di tei 'i L'a gī teas din na na tei təc
 'a t'i gī kō wa 'a gūL 'in na 'at t'ic

they place in the middle. Behind them blanket they spread. Then belts they bring. Then for them four songs they sing. With them they tie them around their waists. Then they dance around the circle. They do that then all young men with them they tied on. Then they give them back. Then they take them out. Tipi they take them in. Belt hat with they give some one. Then they put them on. They dance around the circle.

His horses whose are many those they put in the middle. Hats who own beside he sits they make. Coat good him they give. Then trousers good him they give. Blanket new to him they give. Moccasins beaded to him they give. Earrings their earrings they make to him they give (?). Then in front they dance. On them I will offer who thinks on them they dance. Women to whom it is given their husbands on them they dance. Horse two three good ones they offer. Clothes very many they offer. They finish singing then women get up. To whom it is to be given for them they talk.

Hat with who is to receive then four nights only they sleep. Then four days dancing this way they keep on.

Those who fight only those hat dances only hats when they dance with it they give orders. With it chiefs they become. With it they give it then one person dances. To him to whom it is given right his hand wrist with they pull him up. Four times they lead him around. Beside him he sits, beside the one who gives it. Then they paint white man's paint with all their faces. On their cheeks like rings blue paint they paint. After that he gets up. He who gives it too gets up. For them they sing. Four times they dance around. After that they sit down again. In the center they sit. Four nights by himself he sleeps. After that the owner he becomes.

SOCIETIES

ts'i

La t'a 'is ga ka 'i wa ka t'ū na ga zā yil ta dilte
 La t'a t'a gim mī tsī ga da gī L'ō 'al t'a tī 'a gī t'i
 'i ts'a ga ka ga na gim ma la tein na 'ai gīs L'ō ta gū
 ta gī dī dilte 'as ts'a mīL dī dji 'i t'i gī xa gīl tie
 5 gī ga na L'a na 'i ka ga na 'i 'i līl la gū tsī xa gī dī te'ij

tas gīl na

'is ga ka 'i wa ka t'ū na ga zā yil ta dilte ta la gin nī da hī
 t'i gī xa gīl tie gī gīs teō na ts'it da tea gō ta
 ta gī gīs te'ūlte 'as t'a tī 'a gī t'i 'a kī yī t'a
 gim mī tsī ga da gīL L'ō

lī kū wa

10 ka t'ū na ga 'i wa ts'i kū wa yil ta dilte ka t'ū na ga 'i
 mī tea dī t'i gī 'a ka sī gī gī da 'i gī dī da hī t'i gī
 ts'i kū wa 'i teī gī ca 'i la ga gū gī ta nī līl la 'i gīn na da

na gūl te'ūj na

'is ga ka 'i wa ka t'ū nī ga zā' yil ta dilte
 'as t'a tī 'a gī t'i ta k'i t'a gim mī tsī' ga da gī L'ō
 15 ta gū ta gī dī dilte mīL dī dji 'i t'i gī xa gīl tie
 gī gīc teō na gī na nī ta ta ga gīl te'ūlte

da wū'

'is ga kū wa zā yil ta dilte 'i ts'ū sā zā
 gim mī tsī' ga dai gīL L'ō te'i dī nī teī gī mī za la mās gū
 ta gī dī dilte mī na ga ts'is t'ū na gīs tsa hī t'i gī
 20 ta la gī dīl gīc 'a t'i gī kō wa ta na gī dilte

QUALIFICATIONS AND DUTIES OF CHIEFS

na hī ne dī na ti 'is dū gū 'a dī na sa dī 'a lī ts'i dal L'i
 t'i gī gū dja gūs t'i ga ts'in nās 'i gū dī ma te'i dīn na
 na sīL gān na 'i wa da nī tī 'iL teū na' ha kū teī ga tī

SOCIETIES

Mosquitoes

All young men and men only dance. All feathers their hair are tied on. Naked they are. Bird claws their wrists are tied on. Three times they dance, first then fourth time then they go among the people. Those they catch their claws with their heads they-scratch.

Police

Young men and men only they dance. They dance then they go among the people. Those they catch blankets breech cloths for they tear up. Naked they are. Two feathers on their heads are tied on.

Dogs

Men and women they dance. The men red cloth they put around their shoulders. They dance then the-women end of cloth they hold with they dance.

Preventers

Young men and men only they dance. Naked they are. Three feathers on their heads are tied on. Three times they dance then fourth then they go-among the people. Those they catch their clothing they-tear to pieces.

*Dawū**

Young men only dance. Soft feathers only on their-heads are tied on. Whistles around their necks in a circle they dance around. His eye who is shot they see then they run away. After that they quit.

QUALIFICATIONS AND DUTIES OF CHIEFS

We Indians different ways when we were living, when-we were fighting each other then well just when he was-looking at him his enemy who killed; and gun who-

'a gī t'ic dī ma' kū 'is Lək ka nī La nī' nī 'i' na'
 'a t'ī gī na djū ha kū tei ga 'a gī t'ic mit tsan nəg ga
 gū djan na gū yī la gū dī nīc na dū ka ts'ī dī na' 'a t'ī gī na
 djū' ha kū tea ga 'a gī t'ic ts'as dī na na dī na
 5 mīs t'ō kas 'as 'in na' 'a t'ī gī na djū ha kū tea ga
 'a gī t'ic ma ga gū La gū dāt dlīc na' 'a t'ī gī na' djū
 ha kū tei ga 'a gī t'ic 'a k'a dū gū tsis dīs teūL na
 tsa ga k'ī gī dji dū wī yī ya' gū tsis gī dīs teūL Lī t'ī gī
 tsa ga k'ī gī dji yī gī yate 'i wa t'ī ha kū tei ga 'a gī t'ic
 10 'a t'ī gī na ha kū tei ga t'ī na tsa ga k'ī gī dji 'i da ha kū tei ga
 gī na 'i dī dīl lī 'i Līl la nīs te'a tei i Līl la 'as dāt t'ā
 ha kū tei ga na 'i ma ga 'i ts'īs na gū gī gī la na gū
 mī ts'ī 'i ts'ī ka na gū dī na ma ta gū Lī na gū ts'īs t'ī hī
 t'ī gī min na ga te'in nīc na kū nī 'i nī gū ha kū tea ga
 15 sī lin nī t'ī gī xa dī na gī Lin na 'a Lī ts'ī zī ga t'ī gī
 'ha kū tea ga 'i gū ts'ī dī yac gū zis gən na 'i has te'ī nīc
 yū wū 'i ts'ī zic gī nī mī na djin na' 'is Lək ka nī Lən nī
 gū zīL La nī Lən nī gī ma ga nīl la gūc nīc
 min na djin na' ts'iz zis gī ne na gī ma ga ts'īl la t'ī gī
 20 na nīs sī dū 'a Lən na ts'ī gī nī la

SHAMANS

tī ga gwa gū dī la t'ī gī 'i zū nī 'i wa t'ī gī
 'a ga gū yī lin na 'as te'in nīc xa gī ya t'ī gī gū ts'ī
 kū gī yate ma gū dī la na 'i tal gim ma ga na ts'īs teūs sī
 k'a gin nī tate na ga gū gīt dīl nīc 'i wa t'ī gī gī djin
 25 gwa gū dīl la 'e xa gū gīL t'ōt La yī gī gīc k'ac xa gī na
 t'ī gī xa na gī yate gī gī na gū dja gūL 'ite tei
 ha nī da t'ī gī 'is Lək ka gim ma te'īL lāc ha nī da t'ī gī
 gū sīL La gim ma ga te'ī lāc 'a ka kō gō 'a gū dja gū gī la
 t'ī gī dī na te'ī lāc ha nī da t'ī gī ta gū gū dja gū gī la
 30 t'ī gī dī na te'īl lāc 'a kō ha 'a ga Lī te'ī gī Lite
 Lī k'ī gū tsag ga kwī yī ga gwa gū dī la t'ī gī 'i wa t'ī
 L'ō Lī te'it dī 'ate gī mī ga na gī ts'ī 'ate L'ō 'i 'is L'a
 kī ta gī gī kate gī gī zīz 'a t'ī gī gō wa gō tsa ga 'i
 dī na te'īl lās 'i wa mī tsī' 'a gū dī lən na tī ga
 35 'a t'ī ga kū gī mī na sa na te'a 'ate L'ū mī k'a
 ta te'e 'ate 'i wa t'ī gī yī nat da gī yīL tsin 'a t'ī gī

captured chiefs they became. Scouts horses many they stole those too chiefs they became. His heart kind, fond of inviting, not stingy, those too chiefs became. By themselves another kind, pipes who own those too chiefs became. His tipi many who had painted those too chiefs became. Yet who had not taken scalps scalps shirts they did not wear. Scalps those having taken then scalp shirts they put on. Then chiefs they became. Those who are chiefs scalp shirts chiefs their uniforms metal with beads with they are like.

The chief his tipi to eat he invites. From him they may ask anything. Person bad thing who commits then to him he tells him he must stop it. Chief who becomes then he lives this way. They kill one another then chief to him he goes. The murderer he tells, "That one you-murdered his relatives horses many, clothing much them give," he tells him. His relatives who was killed to them he gives. Then in the future they do not hate-each other.

SHAMANS

Very he is sick sickness then medicine man he asks. He comes out then to him he goes in. Sick person blanket for him they spread on it he lies. He feels-over him. Then he sings. Where the sickness is he sucks. He throws it in the fire. He does this then he goes out. For it well making him sometimes horses to him they give. Sometimes clothes to him they give. Twice he has doctored him then he gets well. Sometimes three-times he doctors him then he gets well. This way we-doctor each other.

Another kind his chest inside when he is sick then herb he puts on the fire. Beside him he puts it. Herb cup inside he dips. He drinks it. Then his chest gets well. And his head when it aches very much then fire in front he puts it. Herb on it he puts. Then over it he smells. Then they do that they get well. And

dī gī gū ts'i' ɛ gū dja na t'ic ɛ wa gū ts'it ta gūl wil lī
 t'i gī l'ū ɛ gī gī ɛal gūl wil lī l'ū i līl la gī gī dī jūte
 ɛ wa t'i gū dja na t'ite dī l'ū ɛ gū zil a nī la ne
 gū ga gī gī nie gū tsī ga gwa gū dī la ɛ t'i gī l'ū
 5 gū te'i dī jūc ɛ wa t'i gī gū dja na t'ite gū ziz za teū
 ɛa tsa gū ka hī t'i gī l'ū te'a dī t'a da mī da
 ts'it dī ɛa hī t'i gī mī dī da dū gū xa yīl nīl te ɛa t'i gī kō wa
 dī na te'i lāc dī gī ɛ zūn nī ɛ gū dja te'is ɛ ɛin nī gūl
 la na ta teate ɛ wa gū dja te'ic ɛ na' nī lān na
 10 dī nāl lāte ɛ wa ɛa kū gū dja ɛa lī ts'i' ɛin

SPORTS

ɛa kī a ka ɛa lī ts'i' ta za ts'is ta ta ka zil la sī
 da gī gūl l'ū ɛa kī yī gim mic yīl te ka wa gū mai ya
 tsis k'a ka ts'a gī dīl te gū zil la ka ts'it dī la' ɛas t'a dī
 gūl tī ga ɛis ka ka gī mī k'a ta ts'in nī dac gūz za gū
 15 na gī l'a ta gī dī līj gū wa ha la ta k'a gūl zil la ɛ la t'a
 na kī dī lāc
 ɛis ga kū wa tī ga yīl l'āl na ɛa lī ts'i' ta za dī tən na
 ka wa gū mai ya na ts'it dīl te da t'i gī ka wa dī dīl le
 ha kit dja ga gū ts'i' xa gū ɛis sa gī dīl lī te gū wa ha dīlān na
 20 gū zil la ka ts'it dīl la cī na gī dī lāte
 gū dja ɛ dī te'ac na ɛa sa t'i ɛis nī na ɛ wa t'i gī
 ɛā te'in nie t'i gī gū zil la ka ts'i' dī lāc sa ɛa nī
 te'ic t'a ts'i' na ts'i' ɛate dī gī da na t'a gī djite la na
 ɛan nī nī ne ɛas tsa ɛ nīl t'ū' ɛ wa t'i gī ɛa ga
 25 sa ɛa nī gūl t'ūte gū gī te'a ta ɛ tēi na gī dī te'ite ɛ wa
 lī k'a is t'a ɛ dīs t'ūte sa ɛa nī ɛ ɛ te'an na
 te'a gūl dī te gū zil la na gī dīl lāc ca ɛa

PAINTING OF TIPIS

gū tei dī līc cī t'i gī tsī ɛis lāk ka dī dji kī da
 ɛat teiL ɛte tsī dīj na ɛis ga ka dī dji mas
 30 ta ka lāl tsī ɛ mas ɛ tsī kī da teiL lāte ɛa kī na
 ta tīn na zī ɛa teit l'a ɛa kī na na zī mas ta ka tīl
 ka wa gū ts'i' mas ɛ ta gī gūl nī mīl dī dji tsī
 ka wa gwa gī yīl teūz ɛ wa ɛa gī t'i gī ka wa

part of his body swells then herb he chews. The-
swelling herb with he blows. Then it gets well. His-
herb clothing much him they give. His ear it aches
herb he blows in then it gets well. His large veins one-
cuts then herb holy its opening he puts in then
its blood does not flow. After that he gets well. This
sickness they doctor even some die. And well
who are made many they get well. Then this way well
they make each other.

SPORTS

Two horses to each other praising heads (?) they-
tie up. Two days after camp away on a hill they-
go up. Their clothes they bet. Naked just young men
on their horses they mount. Far where they stop they-
race. The winner clothing all he takes.

Young men very who run fast to each other praising-
themselves camp from they gather. From here money
chief's house from that far they start. Who wins
clothing which they have bet he takes.

Well who shoots, "Let us bet," he says. Then
"Yes," he says. Then their clothes they bet. Target
side of the hill they place. Their guns they load. One-
of them says, "You, first shoot." Then the target he-
shoots. Where it strikes stick they stick up. And the-
other in turn he shoots. The target who shoots he wins.
Clothing he takes.

PAINTING OF TIPIS

They paint a tipi then paint in cups four in side
they make paint. Four young men four rings holding
paint the rings paint in they dip. Two persons before-
doorway stand. Opposite the door two persons stand.
Rings they hold. Tipi to it the rings holding up with
fourth time tipi they put on the cover. And there tipi

gū tei dī Lie ʻi wa kū wī ga dī dji ʻis la kī t'a
 sī ka ʻa tei L'a dij dī L'ū tsin sa ʻa kwī yī ga sa ʻa
 tsa sī ha dū wa ta tin na kwī yī ga gū gī dis k'an
 gūL teit djin nī t'i gī Lī kī zā na nī tei tea ī Lī kī za
 5 dī na kwī yī ga dīL tsin na ka wa gū ga teiL teū dī
 t'i gī tei tea ʻi mī tea gū lin nī dij gū zā gū za ka
 zi ka ʻi wa ka tsit tsa dī t'i gī gūL dī djin gū gī na
 ʻi wa t'i gī ka t'ū na ga ka wa ʻi ma ga gū tsa ʻa hī
 gū Līl la ka mī ga tsas dī na kū yī ga nī tate dī dji
 10 ʻi L'a gī nī tate ka mīL gūL dī ka wa k'a nī ta t'i gī
 ʻi wa ʻa t'i gī kō wa mī ts'i kū na teit dīl te ʻa t'i gī ko wa
 mī Līl la ka gū teiL lite

BUFFALO POUNDS

xa nī nas ʻa ga ʻa tsī la t'i gī ʻis ga ka xa nī
 ʻa ka ʻi tic na mī tsin na wūL Lī t'i gī min na da
 15 ʻi tei dī te'ac ʻal tsin nī ga na da Lī t'i gī maz tsī
 ʻa teic ʻic taz na na kū jīj ʻi wa kū dīl te mī gī na
 dī na ka tein nī tic kū gī sī mī teiL t'ū La t'a
 mī ka tei gac ʻi wa t'i gī na tsīL ʻaL La t'a ʻa lin nī
 ʻi Līl la ta na teit dīL

TRAPPING BEAVER

20 ta ga min na dī dīl lī ʻis teū tsī min na
 ʻa La tei dī ʻac mas tsī ʻi tei sit L'a nī da sit dī tsī
 dī dīl lī ʻis teū tsī ʻa tī tī gī ʻi tei ma ga na teit dīL nite
 ʻa t'i gī ga da tei gī L'ūc ʻi L'a tsī ʻi t'i gī mī ts'i
 na teit dī yac mī ka teiL djūs tsiz ʻic gac

PRIMITIVE DISHES

25 dza na gū ts'ā tea cī djon nī dī dīl le mīL
 na gū ts'i tin nī nī dū wa gū ʻas sa' dī dīl lī mī ga
 sa te'is in ne nī dū wa gū gū L'is ʻas sa' gū ʻa te'is ʻi
 dī kas kū na kan t'i ge gī gī kit da da nī i kit da gī la
 mās i ts'in na mās ʻa gīs ʻi dī tei teū ʻi tei kū da
 30 k'in nīs t'as sī gim mī ts'is La xa xa nī da ʻas sa' kī da gī la
 ʻi t'i ge ʻi Lit da ʻa gīs ʻi nī t'i ge ʻa ts'a kī gī sūz ʻis L'a
 gwa ʻa gī gīc ʻic

they paint. Then inside four cups inside stand. Opposite the door four places sweet grass is placed. Inside it is placed. Cedar doorway inside they burn, then they sing, then one our berries each one person inside who is sitting tipi to them they give to eat. Then the berries spoon four times only in their mouths they put. Then they finish eating then they sing its-songs. And then man tipi for him to whom it is given with on the prairie by himself inside he sleeps. Four nights he sleeps. When the day ends he finishes sleeping then after that to him they go in. After that with it everything ends.

BUFFALO POUNDS

Buffalo corral they make then young men buffalo for ride. They drive them then over them they shoot. Beside the hedge they go then both sides those who hide get up. Then they go in around them people everybody from the outside shoot them. All they kill. Then they butcher them. All meat with they go home.

TRAPPING BEAVER

In the water its hole iron trap its hole they put-outside. Both sides sticks small they stick up. Iron trap the wire stick for it they drive in the ground. There it is tied. In the morning then to it they go. Its legs are caught. They kill it.

PRIMITIVE DISHES

Long ago old woman aged iron with made from when was not, pot iron in it one cooks was not clay pot she made. This she fired (?) then in it food she put in. Knife bone knife she made. Large stick stick inside she hollows out, their plate. Buffalo horn pot they put in. There it is soaked they make it, then they split it. Cup they made.

STONE ARROWHEADS

ʔis t'an ne ʔa gī la ʔa t'i ge dī dil lī nī dū wa tsa
 da dū wa gū ʔa gīs ʔī tsa gī yī lī lā ī tē'əl Lī
 ʔa gīs ʔic tsa dī dū L Lī k'as L'ū gī gī tēin na ʔī tən nī
 t'i gī ʔī ts'in na ta gin nī L tsal

WHAT EAGLE-RIBS SAW AT EDMONTON

- 5 ʔī ge nas ʔa ga teū wa xa nī dī glic sī yīs ʔī
 ʔa t'i ge xa nī tī² yīs ʔī ʔa t'i ge gū ts'i nas ʔa ga
 yīs ʔī ʔa t'i ge gū tea ga nas ʔa ga na gīs ʔī gū tea ga
 nas ʔa ga na gīs ʔī na Lī gū ts'i na cī na ʔa Lī ts'i da Lī
 ma gī nī ca na ts'i ma hī ʔī tēi nas ʔa ga gū ts'i
- 10 ʔa gū nī ca da nī tī gū dja ma gū nī ca tē'i ge ca
 gū dja^e yīs ʔī gū cī ca tī gū ts'i ʔīs Lək ka
 ma gū nī lin nī yīs ʔī yī gī gū za dī gū ts'i da nī teū
 yīs ʔī Lī t'i ge ta na kəs e yīs ʔī yī wū ʔī ga ha lī
 ha kī dji yīs ʔī ma xa yī ʔai ye yīs ʔī mas yī L'əl ī
- 15 yīs ʔī dī na tī ʔīs dō na yīs ʔī da tēis ī yīs ʔī
 dē ga ha lī tea dī t'an na yīs ʔī dī dil lī yīs ʔī dī na tī
 gō ts'i yīs ʔī na cīn na gū ts'i yīs ʔī mī tē'a ga
 ʔas dja dī gī nī dji gū ts'i yīs ʔī ta Lī gī ts'a gū t'in na
 yīs ʔī dza na gū ha lī kū wa yīs ʔī dzan na gū
- 20 ts'a kū wa yīs ʔī dzan na gū ts'i kū wa yīs ʔī
 dza na gū ʔī ga ha lī ts'i kū wa yīs ʔī dza na gū
 mī ts'i ga nī teū wa yīs ʔī dza na gū na dūs zī ga teū
 yīs ī ma ga zin na yīs ʔī dza na gū ʔī ts'ag ga
 yīs ʔī tsīs ka gū yīs ʔī tū teū gū yīs ʔī ta na kəs sī
- 25 cī kaj jī yīs ʔī ts'a ga k'i yī dji yīs ʔī tea gūz za ga
 k'i yī dji yīs ʔī gū ts'i gū cī ca tī yīs ʔīn na ka wa
 gū da dlic cī yīs ʔī gū ts'i tē'a t'ag ga yīs ʔī

² The suffix -tī is used of primitive objects and native animals to distinguish them from newly introduced ones.

STONE ARROWHEADS

Arrows they made. Then iron was not. Stone arrowpoint they made. Stone with sharp they made. Stone oval tied on its handle he holds then bones he pounds up.

WHAT EAGLE-RIBS SAW AT EDMONTON

There Edmonton cattle spotted I saw. There buffalo I saw. There afterward houses I saw. There east houses I saw again. East houses I saw again. Again after that Cree they fought I knew about it. Hunting wood corral afterward I knew about. Musket very well I knew. Cloth well I saw. I have sense. There horses good I saw. Over there far away there large gun I saw. The same place boat I saw. Over there white man chief I saw. Flag I saw. Wagon I saw. Indians another tribe I saw. (Name of tribe) I saw. White man priest I saw. Money I saw. Indians from there I saw. Cree from there I saw. His hair in the middle parted there I saw. Nez Percé tribe I saw. Long ago old men I saw. Long ago old women I saw. Long ago young women I saw. Long ago white women I saw. Long ago donkey I saw. Long ago rattlesnake I saw. Long ago birds I saw. Long ago wolves I saw. Rivers I saw. Lakes I saw. Boat flat I saw. Scalp shirt I saw. Weasel shirt I saw. There I have sense. I have seen. Tent painted I saw. There sun I saw.

MEDICINE BUNDLE RITUALS

ORIGIN OF THE BEAVER BUNDLE

- ka wa gū ts'i ka t'i ne ta nīs da la dī za he'
 dīs L'al la xa nī yī 'ī 'is lī da gīs L'ū la 'ī wa t'i gī
 xa nī 'ī 'ī nīL t'ū yī zīL gī 'ī wa 'is lī yī ga
 na gīs sūt 'ī wa t'i gī dāg gī gīs L'ū' 'ī wa t'i xa nī 'ī
 5 nās 'aL 'a lin ne 'ī gwa dī gī la 'ī wa gūs tī ga
 min nas gā' tū teū la' tū ta ka gū na dī nī gī la la
 tca dīs dī ta za ts'it 'ī gūs t'i ga min na da dzil ləc ga
 na k'ūs tsit L'a ta gīs tīL nas gū wīs sī 'is na sit da
 ta gī dī 'a ts'i nī dza
 10 min nig ga 'an na tas Lən nī 'a La gī t'i ma ga nī dza
 mī da' dī nīs djac cī xa gī 'a' tas Lən ne 'ī dī nī
 dī na' 'ī ts'i gū dīc naj La dī na gīs La 'ī t'a ka
 sī na nī dji dī 'is nīl la La yū wū' tē'a sī nāc ga dīL gā
 dī na gīs La' 'a kū 'īL nī na kal La' tē'a tē'a' 'ī ts'ag ga 'ī
 15 tas Lən nī ma L'a dīs ts'i dī nī tē'a 'ī gū dīc naj
 La māt dī 'is dū ts'i dī ya 'is tē'i dza ga mī ts'i
 na ka nī ca 'īL nī tē'a 'ī dī tē'a 'ī La t'a'
 ta gīs djac la 'is tēiz gū mī ts'i na ka nī ca t'i gī
 'ī t'a ka nī ts'i sīt dīs dlā 'a' mī tē'an nī ya tē'a 'ī
 20 'an nī
 'ī wa tas Lən ne' 'is t'a gū dīc naj La ma ga
 sī gīs tal 'ī gūL dū tē'a dī t'a 'a t'a' 'as sīs nī sin nī zā'
 tē'at dī nīs t'a 'a t'a' La sīL tī dī nī na gū wa sī gīs təl i gūL
 La sīL tī dī nī na da sī lī gīs sa 'a gīs 'īn ne da La t'a
 25 dī na 'ī lin na' sī lī gīs sa dū gū wa nīs 'a ha t'a
 tas Lən ne 'ī 'is nī dī na'ī tē'a has nīl la La dī nī'
 dī na la' sī nī ga 'ī 'as tēiz 'ī wa t'i gī tē'a 'ī 'ā
 gīs nī tē'a 'ī dīs nī tī līl la nīs t'an na dīs dal
 dzan na da da nī 'ī nī dū wa tē'a' 'ī na gī dī la
 30 lī gīs 'ī t'a sī 'an nī tū mīL tēi tē'a dī ts'in ne'
 ts'ā sī t'a ga ma ga da gīL L'ū' 'ī wa La tas Lən ne 'ī
 'an nī dī gī sīt tū mīL La 'is dū dī gū t'in na ga gī 'aL i gūL
 'ī dū gū teū t'in na zā' 'a gīs 'ī gū la tē'a dī t'a
 nī dū wa 'a sīt tū mīL La zā' 'a tē'a dī t'a 'a

MEDICINE BUNDLE RITUALS

ORIGIN OF THE BEAVER BUNDLE

Camp from it man mounted a horse. He hunt he rode. Buffalo he saw. Horse he tied. Then buffalo he shot. He killed it. And horse to it he led. Then he tied the horse. Then buffalo he cut open. The meat he arranged. Then just beside him a lake was. On the shore he had spread the meat. It was hot. Noon just above him in the sky cloud small floated. With his head down he was eating then he looked up.

His food around water serpent lay in a circle. Its forehead its horn blue stuck up. Water serpent this man to him he spoke, "My son, may I live. Why are you afraid of me?" he said. "My son, yonder thunder is thinking about me. May I live." Thus he said. It came down, thunder. Thunder birds water serpent around him sat. This thunder spoke, "My son, from him some other way go. That I might eat him to him I came down," he said, thunder. These thunders all were blue. "That I might eat to it I came down. Then on that account to you it ran. From it go away," thunder said.

Then water serpent in turn spoke, "My son, to him do not give me. He is not holy. I say I only am holy. My son, help me. To him do not give me. My son, if you help me, my bag you may have. All people who may be my bag not to them I have given." Water-serpent spoke. This thunder he told, "My son, this you save my food you may eat. Then thunder, "Yes," said. Thunder made a noise with up they went. Already food was gone. The thunder took it up.

The bag was in bottle small hard crow feathers over it tied. Then "My son," water serpent said, "this my bottle other tribe do not give. Other Sarsi only I let-

'is dū di gū t'in na sī tū mīL La ga nī 'a la da tsū t'in na
 nī dū wa gwa gū na ha t'a 'i gī lī gīs sīt tū mīL La
 mīt t'a sa 'an na 'a' na mī yī djū mī t'a 'a 'i ts'ag ga
 La t'a te'as ts'it tī mī t'a 'a t'a' mīL te'i djin ne
 5 xal teū di djī mī t'a t'a La 'a ka tein na
 'a na ts'i di lātē cī mī t'a 'a ka tein na 'a di la t'i gī
 ts'i dān na ka tei te'a ka min nas gā na gī 'a
 gwa nīs 'ic xa zī nī gō wa t'i gī xa te'is te'ūlte 'i wa t'i gī
 ts'i t'ūt

Planting Tobacco

10 ha gū te'i dīL k'āte 'i wa t'i gī ts'it dān na ka tei te'a
 gū k'a tū nī 'iz na 'a ka na ha cī gīs nate 'i wa t'i 'i tei
 tas tei tei i Lil la ma ga kō te'i dīc di kū ts'it dī
 tō wāl 'aL 'in na na gī dī djite sī ne gī nī zin na 'a di na
 djū na djie lān na 'is t'a 'is dū na yī nī zī na
 15 na te'ite ka mī k'a ts'i gī yī zit t'i gī La māt dī
 tī te'i nāc sīt dān na ka ka 'i gī ka ts'a 'i dū wūt
 'i ta nī da sī 'at t'a dī 'a na ts'i di lātē tei da
 dī gī 'a ts'i dī la gwa gū nī lī xa gī dal gwa gū nī lī
 xa gī dal gwa gū nī lī La t'a dī na nān nī t'ūt dī na
 20 La t'a na xa gī na 'a t'i gō wa 'a kō

JACKRABBIT GIVES MEDICINE FOR SWIFT HORSES

mī da wū sis sa t'a mī ta 'i L'a tsī yīs t'a dī lī tea ka
 ka ma dī wūt 'a t'i gī gū gā teis k'a sīt da la teūs L'a
 La sī nīs tsīL 'i dī gā na gī nīL tī sis ka ka 'a ts'ag ga
 yī tei tei yī nīz zin la 'a kū nal ts'i³ na dis dja 'i teij gū
 25 teūs L'a 'i ta gīL tājL mī k'a sī gū za ts'iL 'aL t'as sī ya
 na zī nī L'a tī ga teū mī k'ai ya kit da 'a tein nīs til la
 'a t'i gī 'a tein nīs tin ne yī k'a na zil la 'is ka nī dal La
 Lī gī dīs cat tei 'a t'i gī 'is ka nī dāl 'i ha lī tsa 'i
 k'as din na yī tsī' 'a dī gī nāl La ta t'a cī Lil la dī nīl la
 30 dū yī ga na gī nāl La dī nī 'i ts'ag ga 'i dīs djin
 k'a nī djin dī gū dīc naj la La k'i gī ts'i na nī ya
 'ie teiz mī ts'i 'is daz dja La mī k'a teis te'it dī
 da nī 'is teūt da 'a' sa ga nīL ta 'is teij yī na gīL 'in

³ This time of day.

own it. Holy nothing is, my bottle only is holy. Other-tribe my bottle if you give Sarsi none will become. This bag my bottle inside it lies. Otter too is in it. Birds all different kinds are in it. With it they sing large-rattles four are inside. My son, tobacco seeds inside. Tobacco you sow then boys small mocassins beside it stand up make." Autumn then they pull it up. Then they smoke it.

Planting Tobacco

They burn off the grass. Then boys small over it who tread it down run back and forth. Then sticks pointed with for it where they make holes they put in-seed. The owners they sow. Who wish to those too sow. Others in turn other persons who wish to sow it. On it they put the dirt then away they move the camp. Boys' mocassins their spirits drive away.

"Father from you it is this that is planted. Here this may it grow. Happily may it grow. Happily may-it grow. Happily all people may they smoke you. People all you look after." This is all thus.

JACKRABBIT GIVES MEDICINE FOR SWIFT HORSES

His horn bent over his father early in the morning his horses drove away. Then beside on the hill he sat. Squirrel he killed. By himself he laid it down. "My-children's birds will eat it," he thought. This time he-went home to eat. The squirrel he was holding. Behind-him he heard something. He stopped. He stood. Jack-rabbit his legs between hid itself. Then where it hid-itself over it he stood. Hawk was chasing it. Then the hawk the old man nearly his head it touched. While flying it sang. Not from it he moved. This bird sang.

When he stopped singing he spoke. "My son, from it move. I will eat it, to it it made me tired. My son, from it seven guns you will capture. To me give it.

nī dza mī t'ag ga ɛ Lil la teis teit de da dū wa
mī tsī k'ī za da gī L'ū La t'a ɛ ts'ag ga ta sin ne zā
te'a din nis t'a ɛa ɛa ɛ gī mī tsī k'iz za da gī L'ō nī gī ga
nil la

5 nī L'a tī ga teū ɛ ɛis t'a gū dic naj La mī ga
sī gīL təl i gūL dū sa te'a tī t'a ɛa ɛa ma ga sī gīL təl i gūL
ha li tsa nī L'a tī ga teū na gis ɛ nī nit dza mī tea
i Lil la mī ts'ī ga tas tsū wū mī tsī k'ī za da gī L'ū la
sin nī t'a ga dī gī na ga nis La ɛa ɛa ma ga
10 sī gīL təl i gūL sī nī t'a ga teis te'it dī da nī
ɛiL teūt da ɛa' dū sa te'a dī t'a ɛa ɛa La nī li tea ka
sa gī gil L'əl La ɛa'

dī ne ha li tsa ɛ nī L'a tī ga teū ɛ i Lil la tī dī na
ɛi wa ɛ ts'ag ga ɛ djū ɛiL tī dī nal la dī nī dī nəl la
15 dī teūs L'a zā nī teiz ɛis nil la ɛi wa t'ī gī teūs L'a ɛ
na dīs til la ɛis dū ts'ī i Lil la dīs t'ai ɛa t'ī gī
ha li tsa ɛ nī L'a dī ga teū ɛ ɛin na kū gī yis til la gūt dī
na dis dja la ha li tsa ɛ mī li tea ka tī ga ha cac nal li
din nī te'a dī t'a tī gwa ɛat dja la

WHITE GOOSE GIVES MEDICINE FOR HORSES

20 La dī ha li tsa Lī t'ī gī ɛ' dīs ka ka ɛa ga tsīz
ɛa ga dī yəl la teiz ɛas t'a hī tū teū ga k'a nī ta
yī ga na gī yəl la yī ts'ī dīs dūz yī ga na gī dūz
teiz gū t'in na' ta sī ɛa te'at dī nīj gūs t'ī ga ɛa t'ī gī
La din nis ta la

25 yū wū ga tsit La la yī ts'ī gū dic naj La ɛi t'a ka
dū gī ma ga nī t'a gī mī te'at dī nī nī dji La
ɛi gī sī nī lit tea ka na nīL ɛin na na gū nəl ɛin ne
nī dza La t'a gī dīl gāi la gī mī ts'ī ga dīL kəc ta zī k'a
na zī dī ɛi Lī gī sī mū wūs wūs sī dīL kəc mī ga
30 nī na gī zī dī mū kū s k'a dīl gāi ye teū ga tsit La ɛi
ɛan nī dī yī ka ɛa kī yī ka zā tī ga gal Ləl La ɛa
La na ga gū nan nīL ɛi gū na gīL ɛi nī nī dza kǎ wa
gū nis djan na gū dīl gāi ɛa teit L'a ts'ā ɛis Lī tea
dīl gāi ye da gīt L'ū ɛi wa nī li tea ka ga ɛa ɛi wa nī nī
35 na ga ɛa gū dja na ga gū dət dlic gū la gūL ɛi wa

* When used of people means tribe or nation.

I will eat it." He looked then its feathers with seven arrowpoints side of its head were tied. "All birds I only I am holy." That side of its head was tied to him it gave.

Jackrabbit in turn spoke. "My son, to him do not give me. It is not so holy as I. To it do not give me." Old man jackrabbit he looked at then its tail with its ears painted yellow side of its head were tied. "I too these to you I will give. To it do not give me. I too seven guns you will capture. He is not so holy as I. My son, your horses will run like me."

This old man jackrabbit with he helped. And bird too he helped. "This you save this squirrel only you may eat," he said. Then the squirrel he took. Another way with it he flew. Then the old man jackrabbit hole he put in. From it he went home. Old man his horses very ran fast. This holy became.

WHITE GOOSE GIVES MEDICINE FOR HORSES

Another time old man the same his children for ducks for them he went. Ducks different kinds at a lake he found. To them he came. Toward them he crept. To them he crept up. Ducks many among them he aimed just as then he fell asleep.

Yonder white goose to him spoke. "My son, why not them you pity. At them you aimed. My son, here your horses look at." He looked at them then all were white. Their ears were black. In the middle the one stood left its leg front was black. Beside it another stood its mane white large. The goose said, "These two horses only very run fast. My son, your tipi look at." He looked then tipi high was white. Opposite the door outside horse tail white was tied. "And your horses' tipi and you your tipi it is. Your tipi is not painted. And do not paint yourself. Your-

ta dī gī ts'ī gū la gūL nī ts'ī da zā' Laz 'īL tas dlaz
 'ī wa nī djon na 'a 'a kū xa mī k'a na gū tc'ī nite
 'a t'ī gī kō wa

BUFFALO BULL GIVES A SHIELD

'a kin na 'is ga kū wa ta gī nis da 'is Lək ka k'a
 5 ta gin nis da 'īL k'ai ye Lī ka zā' zā dī dāg ga nī Lā
 gī gī dīs sa nī yū wū 'is Lī tī gil L'āL 'ī k'a ta sī da
 dī dāg ga 'il k'ai ye gā ts'ī gil L'āL 'ī 'il k'ai ye ts'ī dī wūc
 'is kī ya 'ī 'il k'ai ye yī dīs sa tc'ī gī dī gil L'a
 ha Lī gī dī cātc tca 'is Lī 'ī 'is da dja 'is kī ya na tcī gil L'a
 10 'a t'ī gī 'il k'ai ye 'is Lī 'ī tc'a nīL tc'ūl 'is Lī 'ī
 ta sit ts'a 'a t'ī gī ma ga zin na na⁵ kū ts'ī gil L'a
 'il k'ai ye 'ī 'in na 'ī 'aL k'a gū nīL dīa gūL nāt dīL ts'it dī
 'aL da na gū dīa 'ī wa ta gū xa gū lai gī nīL k'a mū wūs
 gī t'ī na gū nīL tc'ūl k'a na gū nis kai ye yī k'a
 15 gū dīL tc'ūl yī na da na zit dī Līl la xa ta la yīs tin na
 gī ts'a gā na k'a 'ī liz
 'il k'ai ye 'ī ha nīl la La da nīL tin na dīn nis na
 'as tsa nī ts'ī 'iz za ga dī sis sit sī ga k'as dīn na
 sa ga zī sis gin na ka la sin nān nis 'in na na 'in na gīL 'in
 20 mī da ga nis kan ne tās dja cī da ga dīt tā La
 dī nis ka ne dū dīn na ga nis tī ha 'a nīn ne da na ga
 nis tī dī dji da nī 'īL tcū da 'a ha kī dji nī tca wū'
 'an nī na ha 'a nī na nī dja dī nīs ka nī 'ī 'al la
 'at Lī ts'ī dāL dī dī dji da nī 'īL tcūt 'ī wa
 25 ha kī dji nī tca wū 'at dja

OWL SKIN WAR MEDICINE

dij na 'is ga ka 'a gī nī la 'a t'ī gī ta nas tsai
 Las tsū ī Līl la 'ī wa t'ī gī mī dīt dīc ca gū gā na k'a sī
 'ī wa gū wūs k'a sī t'as 'ī Līl la tas tcij k'a na dī nī dī cī
 t'ī gī 'ī wa t'ī gī kū⁶ na da yī dīL dīc 'ī wa t'ī gī t'as
 30 mī ts'ī dīs k'an xa gī la gī na L'a yī ga gūL t'ī t'ī gī
 ts'a tca na ga gī nī la 'ī da nī dī dji dī dī t'a nī
 dī gī mī t'a ts'ī gī la mī sī k'a dī ts'in nī ga

⁵ In compounds na, but when alone 'in na, as in the next line, is used for the underground den of an animal.

blanket only white clay make white with. Then you-will be old." Thus the story they tell. This is all.

BUFFALO BULL GIVES A SHIELD

Two young men rode. Horses on they rode. Bull one only calves many they chased. That one horse good runner on he rode. Calf beside bull was running. The bull was lowing. The young man bull chased. He ran in front. While he chased it the horse got tired. Young man jumped off. Then the bull the horse tore open. The horse died. Then wolf's hole he crawled in. The bull the hole tore open. When he came at it again he tore it open again. Then three times he tore it open. His leg he saw. He tore the ground again. He gored it again. On him he tore it off. Above him while standing on his back he was lying. His chest on he urinated.

The bull said, "My son, I will help you. At first at you. I was angry. My son, nearly by me because I killed you look at me." He looked. On his horns shield painted blue was hanging. "My son, this shield nobody I have given. You now to you I will give it. Four guns you will capture. Great chief you will become." When he came back the shield he made. When they were fighting four guns he took. Then great chief he became.

OWL SKIN WAR MEDICINE

Four young men she gave it. Then she painted us yellow with. Then its painting along the arms and along the legs gunpowder with she painted. When she finished painting us then then above fire she shook it. Then gunpowder from it burned. When she had done that across the breast she put it. Then old woman to us she gave it. Guns four bullets these in it she put. Owl whole skin she wore. Near she sat. Then guns

tsin nəl t'i gūs tca na nīs da ʔi wa t'i gi da nī dī dji
 ʔi līl la mī ga t'ū dī dī t'ən nī ʔi mī ka na gi kī
 dū ma xa gi nī ts'it dī t'ən nī ʔi ha t'a ts'i nīs k'a cī dja j
 na hī ts'īl t'ūl la da mī tc'a na l dzū gū la gūl dī na
 5 sī nīs t'i gi ma ga nīs lən na yū wa wū sa dza na dī na
 gi lī gū la gi gi nī dīl ka da dū dī na gīs tsī gū la ʔa tī gi da ʔi
 gūl teūz gū la dī gi nī t'ū dī na gwa gū nī la dī na
 gi lī gū la gi ma lin na nīl tīs gū la
 ʔi ts'əc ga mī tsa na tī ga nī nī ʔi yən nī lī gū la
 10 ka nī dal da sī na nī nī

SQUIRREL, A WAR MEDICINE

ha lī tsa ʔi ga ʔi dī la da da nī ʔi l teū da ta ʔi wa
 La nī cī na ka t'ū na ga si l ga ʔa ʔi wa La gū tsis
 nī lən nī dīl te'ū la ʔa ʔi wa La gū la ʔis lək ka
 nī ʔi gū la ʔi wa La ha kī tei ʔən nīn na ha t'a ʔi wa
 15 La dīn na nī ma teit djin na dū nī kī zīl ga ʔa ʔi wa
 La dī ʔi dī dji t'i gi ʔi wa La as ka zū nī
 ʔa gū t'in nī gūl dū nīl k'a nī ta ʔa dī na nī lī zā'
 gū la sa ʔi wa La nī djon na ʔa ʔat t'a dī nīs La ha t'a
 ʔa t'i ga ga ʔən nīl dīs sī nī djon ʔa t'a ʔa t'i gi kō wa
 20 ha gūl dī gi nī la
 gi zīl gi nī t'i gi na gi nīl lū sa ga gi ta dī La t'a
 ta sis tcai ʔi ka ha lī tsī ha ʔi līl la l'i gi sī k'a sī
 siz sa na ga ʔa teiz ma gū līn nī k'a sī sin na ga
 ha gi teiz ʔa kū ha t'a cīc teic kū' na da yī dīc dīc cī
 25 nī dza t'as mī tsī dīs k'an ha gi lai gi sa ga
 gin nīl tī ʔis lī min na gū ga nīs tī sa ga
 gin nīl tī dī gū ts'i ta dī gū t'a mī t'a səs ʔas ʔin nī
 ta dī gū t'a mī t'a k'ən nīl ta kī gūs t'i ga na ga
 gin nīl tī mit da sī da nī ʔi sis teūt mit da sī nī cī na
 30 zəs gī mit da sī ʔa kin na tsīs dīs te'ūl mit da sī
 gū la ʔis lək ka ʔis teūt mit da cī cīc dja mit da sī
 ha kī tei ʔis lī
 hai yū hū dī dīl teūz ja mīl tī dī nī na gū la ha kī tei
 ʔa gi na hai yū hū dīl teū ja ha lī tsa na hī ʔi līl la
 35 mīl tī dī nī na gū la dza na dī na ʔi līn nī līl la

four with when they shot her bullets dropped from her. They did not penetrate her. Bullets just on the ground lay.

When one shoots you from him do not move away. This my medicine to them I give in the future long time persons will be. What they want they will not fail to get. Those things they will capture. Those who smoke this will be happy, persons they will live. Their flesh will be strong.

Bird her head you you be ashamed if you are lying you.

SQUIRREL, A WAR MEDICINE

The old man when he saw it, "My son, this time, guns you will capture. And, my son, Cree men you will kill. And, my son, scalps many you will take. And, my son, many times horses you will steal. And, my son, chief you will become. And, my son, people your enemies they will not kill you. And my son, this you will sing. And my son, even sickness although it is about not on the ground you will lie. You will live only it will perhaps be. And, my son, you will be old as I am (?). Because of this I am saying it to you. You will be old." This is all it said to him.

When he killed it then he made it. To me when he gave it all over he painted me yellow. White man red paint with. Left side my mouth he painted horizontal. Right side my eyes he painted. This is the way he painted me. Fire over he shook it then powder from it burned. When he had done that to me he gave it. Horse for it to him I gave. To me when he gave it from that time thirty-five winters I had it. Thirty-five is ended just then to you I give it. From it gun I captured. From it Cree I killed. From it two men scalps I took. From it many horses I captured. From it I became old. From it chief I became.

Oh, this squirrel help him. Chief he may become. Oh, squirrel he is old man when help him. Long time he lives then with that help him. Misfortunate without-

'a t'i gī Lil la mīL tī dī na gū la ma ta gū Lī 'a tēi gū ca gū
 dī na lī gū la hai yū hū dīl tēūz ja ha lī tsa tsīl lin nī
 ma ga yī nīn nī
 hai yū hū dī na tsīl la hī Lil la sīL tī dī nī na nī cī na
 5 dū cī gī tē'a gū dī na gīs La hai yū hū dīl tēūz ja sa ga
 nī t'a cī na dji na wa gī mī Lil la gwa gū nī lī dī na gīs La

SKY PERSON GIVES A MEDICINE

 ha lī tsa sīt til la na k'ūs k'a dī na 'ī lil la
 ha lī tsa 'ī lī mī tsa ga dī gal yī ts'i na ka nī ya dī
 has tin na yī zīL gī ha nīl la La dī gī mī sī ka
 10 na ga nīs La mī ka tsin nīs Lī ha ta da na ga nīs La
 'īs dū na nī ts'i gī nī ha la ta 'īs Lāk ka gū zīL a
 na ga tsin nīl la ta gū ga gīl ləl 'ī wa 'a t'i gī na
 'a mīL 'īn na tī gwa na ha ta sīn na nīs t'a na k'ūs k'a
 dī na 'īs Lī na t'a nīs tsī nī tēū wū sīs za t'a La t'a
 15 dī na La ga ləl na gī mī na gī tēi dī gūL La t'a sīs ka ka 'a
 'at da dī La 'a 'as sīL 'īn na
 mī sī kai yū ga dī nī ts'i ka da ma ga yī nīl la
 gwa gū nī lī ts'a tēa 'ī lī gū la yū wū tū da ma sī t'i gī
 wū nas dīn na Lī ka za dī ka ha lī kas tī 'ī wa
 20 nī cī na ta La ka za kas tī da nī nī nī kas tī
 nīL ka sīn nas hī t'i gī na zīs sī ka ta La t'a 'ī ts'ūg ga
 na k'ūs k'a dī na sīs ka ka gī t'a nīs k'a dī na
 ta dəs dīlī t'i gī na dīs tēite na hī ga na ta sīn na da
 'īn na ga dīe cīte hai yū hū gī mī səl tī ta dəl dīlī hī
 25 yū wū na hī ta ts'i ta sīt dī dīz zā tēa dī t'a 'a
 wū na t'a dza na gū gwa gū nī līn nī dū ha gū t'a da
 nīL k'a gwa ta gū yī Lī La t'a da nīL k'a
 gū ma na dīs date gū nəs 'ī dū nīL k'a gwa na gū nī Lī
 a na gū na ha 'a 'a t'i ga ga ta dəl Lī 'ī Lil la gī mī səs tī
 30 da ta dəl Lī na hī ta na hī Lil la tī dī na 'a
 'ī ta nīL tsīn nī tēō wū dī nī ts'i ka ma ga gū ta
 mīL tī dī nīn na dī mī sī kai yī ga mī ts'i tēa dī t'a gū la
 ts'a tēai gī na dī na gīL 'īn na mī sī kai yī ga gīn na hī
 gū dja na ha la 'īs Lāk ka 'a gū nī lī 'īs La ga la dji
 35 tī ga ma gū nī lī mīL tī dī nī na

knowing may he live. Oh, squirrel, old man he being to him give.

Oh, being saved alive with help me. Cree never-shooting me may I be saved. Oh, squirrel me pity. My-relatives with them happily may I live.

SKY PERSON GIVES A MEDICINE

Old man was sleeping. On the sky person it was. Old man he was. His hair was white. To him when he came while he slept he killed him. He said, "My son, this owl claws to you I will give. I have not wanted to give it away, this time to you I give it. Some one else from you if he buys it, horses clothes to you if he gives to him give it. And those persons will own it. Very it will be theirs. I am sky being I am. Big-wind my name is. All people who take away do not-be afraid of them. All my children they are. It is mighty. It is my own.

Owl's claws this woman now to her you are-giving happily old woman she will be. Yonder water surrounds the other side one white man I stay with. And among Cree one person I stay with. Now you I stay with. You call upon me then I will listen to you. All birds on the sky beings my children they are. On the earth beings you pray then I hear you. For you our father above me for you I tell him. Oh, keep on (?) you pray. That our father to praying only is holy. In the past long time it was happy. Not like that now on earth bad all now on earth I walk around I look-at. Not on earth happy it will be. That is why you pray with keep on. Now pray our father with-you I will help.

My father, wind great, this woman is poor. Help her. These owl's claws to her let them be holy. Old woman may she become. These your own owl's claws for them well she paid. Horses good, saddle too very good. Help her.

PAT GRASSHOPPER RECEIVES MEDICINE FROM HAWKS

A. First Narrative

- kū zīt da 'a ma 'ī gū ta za sit lən nis tei kī lən na
na gūs tin dī teū t'in na na gū gī tin dī sin nī gī mī ts'ī
dī cīc cāt dī sin na da 'a tea 'is gā nī dal 'ī wa
'ī tsəL dīs ka sī zil la ga na gī dī na t'a la dū gim mis teəL a
5 sī ts'ī na ka gil la sī ts'ī gū za sīL a ga 'ī na gīs 'ī nī
nī dza gī mī gīs 'ī tsa gī mī nī gī na dīs sis 'a
gī mī nis tsil ləs sī sī ka ga ta gī dīL la yū wū sīt dī ka
sīl ləs sī nīL t'a gīs t'ail ta gū sī līl la na gī dī teij
mīL dī dī tsī nīL t'ək gīL t'ai gū sa tsī dū gim mis tsa
10 gwa gī tea 'a k'a na gī caL na gū tī na ts'ī gū wa
na dī cīc ca gūs tī ga sī k'a gī dīL la 'is gān nī dal 'ī
ma ga gū lī nī k'a sī siz zəm mīL a ga da dīc nīj 'ī wa
'as teəL dīL kəc cī sū k'ūs ka da ga da dīc nīj gū dī ta
a da tī
15 'a t'ī gī ko wa ta sis tsa gū za tsī nīL t'a sī kis tīl la
nəs sī gīL dī gī sit dī na gīs sīt dī gwa tei gū nī ca dzan na
gū te'a kī nīt tsa nī na gū cīc dja nī na cīc dja na gī dīs tī cī
nī dza 'a k'a sim ma ga lī gī dī t'ac la na gū tī na
'ī ts'ī dī cīc ca 'a t'ī gī na 'ī gūL ī gī mī nəl 'ī
20 gī nī tsa k'as dī na sī līl la na ka na gī dī tsit
'a t'ī gī ko wa na dī gīs cāt tī ha gū t'a dī dī djin nis sī
sai gī tan gū za sa ga kwī yī ga sis da
gūL ī sī na da gī dī nī gī mī dīs teic lū k'a ka
dī cīc ca dī tū gī la sin nas gā lū k'a sin nas gā
25 na gīL haL ha na gī la dī lū k'a 'ī nī nən nis tī dī da tsa 'ī
gī ha da dīs tsī sis tī dī 'ī l'ī gī gī mī gīs 'ī has sis gī nī
nī tsī t'a mīL na nī tsit dī na ga gī nī nī tī 'ī t'a ka
tsa 'ī līl la na hīn nī saL ī dū ha na la la tī ga mīL
na tsit tsit dī na ga yī gī nīL a

B. Second Narrative

- 30 sī ka gī dīL la tī nī na gīs sīt dī ta sis tsa sī gā
gin nis da nī teū wū 'ī ts'əG ga ha sīL nī dī gī
sī ka gā na 'ən nīL 'ī ma ga yī na gū la yū wū dza na
dī na nī lī gū la ha līt tsa 'ən nī na ha 'a dū ma t'a gū la 'a
dī gī na ga nis la tī ga tea dī t'a ta mī da tsī

PAT GRASSHOPPER RECEIVES MEDICINE FROM HAWKS

A. First Narrative

Before last summer noon fence some when they were working at Sarsi where they were working I to them when I was going above me it was (a hawk) and (a hawk) above me were flying around. I did not see them. To me they came down. To me I heard them coming. I looked-around then I saw them. Stone for them I picked up. I threw at them. Over me they skimmed. Yonder west upwards up they flew. Three times with me they came when fourth time up they flew. Far I could not see-them they became. Still I walked down. Those working near them I was coming just as on me it lit, 'isgannidal. To it right side my shoulder it put its claws in. Then 'astcałdilkacei back of my neck he put its claws in. The-blood flowed.

After that I was dead. Far up they took me. When-they let me fall down; when I fell I did not know anything. Long time afterwards I came to my senses. I got up. I look around then still around me they were circling. Those working to them I went. They too were looking-at them. Among them nearly with me they came down.

After that I felt rather crazy. Four days with me (?) all the time (?) my tipi inside I sat even above me screaming I heard them. Fish for when I went I went-in water beside me fish beside me it threw. When it-came out fish when I brought back everybody saw where it put its claws. While I slept at night I saw them. They said to me, "Your body with it our strength to you we give. Why stone with did you throw at us? If you-had not done that very with strength to you we would-have given."

B. Second Narrative

They picked me up. Where I fell, I fainted. By me they sat. Big one bird said to me: "These my claws you may have. Take care of them. Then long time you-will live. Old man you will become. Not bad these to you I give. Very they are holy. From them I am-

dī na 'is lī na 'a sī nī gūL ī da nī ka da gīs lī dū
 gū dja na ga gī nīs nī dji nī tsī na tī ga ha ma gū lī nī
 k'a sī da gī L'ū gū la L'ī kī 'is ga nī dal 'ī 'is t'a
 ha nī yū wū lī ya na ga gī gī nī dji lī t'ī gī
 5 na hī gīL 'in na 'a 'ī gī na hil la 'a dī da na ga
 mī gī nīc nīc dī da t'a ts'in nīL k'a wū da
 ma gū ca tea 'a 'ī wa tī ga dza na dī na nī līn na 'a
 da t'a ma nīs da ta nī dū wa ha 'a dī gī la t'a
 'aL t'a hī 'ī ts'ag ga sis ka ka 'a mī nāg ga dīs ka ta
 10 dū dī nās tsī ta 'a wū sa gū nī nī ya gū la 'is ga nī dāi.
 sal t'an na sī gīL gāL ī gūL gī mī sī sis gī la da sī ka ga na
 na ga nī na dīs la 'a 'ī ts'ag ga tēū 'ī la k'a 'ī 'is t'a
 ha nī sin nī dji sal t'an na sī sis gī da sī ka gān na
 nīn na dīs la 'a yū wa wū sa dī gī na ga nī ga 'ī
 15 ma ga gī na gū la 'is dū na ha nīl la da ha gī la mīn na
 na ga tsī gī gī nī 'a t'ī gī na ma ga gī nī la na wū sa
 dzan na dī na gī lī na 'a gī mī nās 'ī gū la sa 'a t'ī gī kō wa
 nī ts'ī k'a gū na naj

A KNIFE, A WAR MEDICINE

'ī ta na gī nīs lō na 'a yīL gū la sī t'ī gī 'is lī
 20 lək ka za mī na na tēi gīL nīc nī cī na ja tea dū
 mī līl la 'a ha tēi tēi nī la ta 'a la gū zā' nī cī na
 jāt tea mī līl la dī sis tsit mī tsis k'iz za dī sis tē'ūl
 dij gū mī zī sis gūt gū nīs na is t'ī ga mīL dīs ma
 dī gī sī mās sa 'a ka gū 'is lək ka mīL 'is tēūt
 25 na dī sī dal dī 'is lī mīL na cīs tēūt la dī na dī sis ma dī
 'a kin na mīL na dī nīl sī 'a kī yī mās 'āt t'a
 lī kiz za tsin nīs k'a na gīs cīc nīc 'is t'a na sis tī na ga
 'ī ta na gī nīL lū mīl la dī ka dī da sī gīL tēil lās sī
 ta dī dī hī līl la sa 'a gī na 'a da cīc tēi tēi t'ī gī
 30 gū gūL 'ī 'ī līl la sī nī gai
 mīs t'ū tī 'ī līl la ta dī dī gwa gū nī lī sī ga
 wū sa dī na lī gū la sī nīs t'ī ga mī ga nī sis tī na 'a
 dī gī ma ga gī nīs 'a
 mīl la dī ka dī sa ga gī nī 'an na 'a 'a t'ī gī da sī
 35 na nī sis lān na 'a
 gwa gū nī lī dī na gīs la cī na dji na na gīs tsan

living. I although (?) now I am sorry for you. Not good to you gift (?). Your dancing hat right side tie it on." The other one hawk in turn said: "That my friend to you he gave the same we two own. Those are ours. These now to you I give this all on earth soon you will learn. And very long time you will live. Things I cannot do there is none. These all different-kinds birds are my children. The one I want I do not lose. In the future be wise. Hawk like me do not kill. If you kill them my claws from you I will take away." The large bird, the other one in his turn said: "I too like me if you kill my claws I will take away. In the future these you we give take care of. Another person if you give you may do it. For it to you he gives something. That person to him you give it in the future long time he will live. I will look at him. Here to you we finish talking."

A KNIFE, A WAR MEDICINE

My father made it. With he gives it then horse one for it they offer. Cree dead body not with it back (?) in vain he runs. Once only Cree dead body with it I ran up. One side of its scalp I tore. Four times his back I stabbed. Ten times with it I went to war. This my knife twice horses with I captured. When we went home horse with it I captured again. Another time when I went to war two men with it we killed. Two knives used to be. One on the ground I offered bad because I dreamed. My father made it. Bear from with it toward sky praying to me he gave it. He painted me then the knife with he threw at me.

Pipe with he prayed. "Happily my son in the future may he live. By myself of it I dreamed this to him I give."

Bear to me he gave it. That from I made it.

"Happily may I live. My relatives may I see again."

WEASEL GIVES A WAR MEDICINE

- gĩn nĩ ga na gĩ nĩL lū sin nis Lĩ dĩ L'ạc dĩ ga ẹ
 ẹ wa t'ĩ ợĩ ta sit tsa dĩ nĩ gĩ nĩ ga tsa kũ sig ga ẹ
 ha nil la la da nĩ ẹ Lĩ la dĩ ha gũ yĩ sa
 nĩ tsĩL t'ũL la da ha gĩL la da nĩ kĩ gĩ tea zã ha dĩ kat da ẹ
 5 nĩ nĩ nĩ lin na dũ ha dĩ ka da ẹ nĩ na nĩ yạt dĩ ẹ gĩ la
 dĩs ma dĩ sa ga yĩs ta ha sis nĩ na ga nis ta
 nĩ ts'ĩ gũs tin na gũ gũ na tci tsĩ dĩ ya dĩ ẹn nĩL ẹ
 nĩ lĩ tea min na sa ga nĩL ta
 sis la sa ka la t'a yĩ dũ wa sin nĩ zã ẹ k'a
 10 gĩs na sa ga tciL ta dĩ la t'a ka t'ũ na ga kũ gĩ dal
 tcĩn nạL ẹ sĩ nĩ gin na ga ẹ Lĩ la ẹ teit l'a sa da
 ẹ da tci nĩ cũL ẹ t'ĩ ợĩ cĩ tea na zã dĩ nĩ gĩ na ga
 ta sis tsũ sa ga nĩ tsa la da miL gwa tsis l'ũ
 sĩ ẹa na k'a sĩ nĩ kạk ka ta tcis tcĩz ẹ ka ha lĩ tsa ha
 15 ẹ Lĩ la sis ẵm miL a ẹ ka t'a mĩ na sa ga ta ka k'a
 yĩ nạg ga k'a ta na dĩL sit dĩ dĩ ka sit da sa ga nĩ ka
 tea tạg ga dĩ ka sit da
 mĩ na sa nĩ sis da na tsin nạL ẹ ma na dĩ nĩ tcũ dĩ
 dĩ za ka gĩ tcaz yĩ ẹaL ẹ wa nạL ẹ ẹL nĩ la t'a
 20 na tsin nạL ẹ dĩ gĩ tsũ lĩ gũL sil la ẹis tcũ dĩ za ka
 gũ ts'ĩ sĩ la L'ạk ka na gĩ gĩs kạs dĩ dĩL t'ạn nĩ ta gĩs sil la
 sil la ẹ la nĩ gĩs tcũ ha sis nĩ dĩL na siz za ka
 gĩ yĩ ẹạn nĩ tci tci dĩs na gĩ mĩ sis t'ĩ ợĩ gũL ẹ dĩn nĩ
 zã na gĩ dĩL nĩ yĩ ợĩn na ẹL dĩL ợĩn k'a nĩ dĩ nĩ
 25 ha sis ne na ma tcit dĩn na ẹas ka dĩ ha gũ gĩs sa da nĩ
 nĩ ts'ĩ dũ xa la t'a ẹ ha gĩL la da dũ nĩ lin nĩ
 ha dĩ ka ta ẹ ha ta nĩ dĩjon na ẹ sil nĩ ẹ t'ĩ ợĩ gĩ nĩ ga
 ẹ la nĩ lai ya ka ka tsis ga sin nĩ zã da cĩc dĩa
 ẹ gĩs ẹĩn nĩ gũ ha dĩ nĩ ẹ gũ ha nĩ nis ta dĩ nĩ gĩ dĩjon
 30 (Repeated as follows: yũ wũ nĩ gĩs ẹĩn nĩ ẹ wa da gũ ga
 nin nis ta dĩ nĩ gĩ dĩjon)
 gin na ẹ dĩ nĩ ẹ ẹ t'ĩ ợĩ da gĩs l'ũ

WEASEL GIVES A WAR MEDICINE

My older brother made it. Daytime when he was riding around he saw it. Then he fainted. This my-brother weasel said, "My son, gun with short distance if he is shooting if it comes out your coat only it will enter. Your flesh it will not enter." When he came back he made it. When I was going to war to me he gave it. He said to me, "To you I will give it. I do not want to lose you. Dreadful place you are going. This you may have. Your horse for it to me give."

My friends all are not. I only still I live. To me when he gave it all men came in. They looked on. I my brother with him back of fire we sat. I took off my-clothes then my breech cloth only this my brother painted me yellow. My front hair in the middle (?) with it he tied it. Along my arm its tracks he painted red. White man's paint with my shoulders both its holes, on my chest moon still when it is new he painted. On my back sun he painted.

In front of him I sat. They were looking at us. (A grass) in his mouth he put. He chewed it. Then, "Look," he said. All looked at us. "This do not let go." My-hands he held. His mouth from my palm he threw bullet. It was hot. My hands he held together. He-told me, "Swallow it." My mouth when I put it in vain I tried to swallow, although I tried. He himself only could swallow it. Its song he sang. When he finished-singing he said to me, "Your enemy even short distance gun at you will not wound you. If it shoots not your-flesh it will enter. You will become old," he said to me. Then my brother said truly. My friends are all killed. I only I am old.

As when I first saw you you told me I will give you-away. This person will be old.

That place I saw you then now to him I will give-you away. This person will be old.

My brother, where you said there, I will tie it.

ROCK GIVES A WAR MEDICINE

tū teū ga tsa teū ka yī ga tcaz zī lī ʔal la dī yī ga
 naṭ tac dī dji dji nī sī yī ga yit ta tū dū ṭan nī
 dū tei tei ʔi lī la ta gi zit tsa ʔi ha nī la la
 na gas t'a dī t'a ka sī ga naṇ nī ta tei ʔis kī ya ʔi
 5 ha nī la ʔi ta' ha lī tsa ʔa tein na sa ga gin nī nī
 ha kī tei ʔa tsin na sa ga gi nī nī ʔa t'i gi ʔa kī
 ʔa ka nī ga na ṭate tca ʔi ha nī la gū nī ya la
 ha lī tsa ʔan nī na ha ʔa ha kī tei ʔan nī na ha ʔa
 teis teit dī da nī ʔil teūt la sil lī na ʔan nī ʔin na
 10 la sin na ʔa sī zī tsa ta gal gai dī dī ṭan nī nī ka
 na ka gū la na gas t'a sī ga na nī ta cī
 tsa ʔan nī ʔi ka sī ha dja ha kī tei nī tca wa
 ʔa dja ha lī tsa ʔa dja teis teit dī da nī ʔil teūt
 sis t'ū t'i gi dī dī ṭan nī mī ka na ka

A PAINTED TIPI

15 la ga dis tsī ʔi wa t'i gi sis zis gi lī kī za nī dzin nī ʔi
 ta sis tsa la ʔi wa ka wa kū yī ga sis da la ʔa t'i gi
 ka t'i nī ʔas sis nī na ga da da kō wa ʔi wa t'i gi sa ga
 dis dji ʔi wa na gū dī kai la na gū sis dja la ʔis lī
 mī ka ta sis da nī dū wa la ʔis lī gal la sī sit da
 20 sī kī gi tca sis la sī ka la t'a nī dū wa la

FINDING A BUFFALO STONE

tsa xa nī k'a t'i ne mī ts'a yī ka ʔa kin na
 ma ta nas din na ts'i da tsa ta sin na la gū kū ts'i dī ya
 lī lī la kwa la' ʔi wa t'i ge te'i dji la mī nas ga
 yī dis ts'ā la yī t'i gi te'i dji nī gū ts'i dī yal la tsa
 25 xa nī na dī ʔa la dī tī gi la yī dji nī xa nī dī tei
 xa nī nas ʔa ga ʔa ts'is ʔin nī dī te'i teiz dji nī dū wa la
 dī nī ts'i ka nī na dja na gū dī gai xa nī ʔit dū wō'
 kū dal lī yis nī la xa nī gi dīl ʔis nī la ʔi wa t'i ge
 tsa xa nī ʔi na nī ʔa la yī dji la xa nī kū yī dal la
 30 nas ʔa ga ga i ta dī nīs ts'is dī nī ts'i da tsa ta sin na ʔi
 k'a t'in nī yī ga nīs da' ʔi wa t'i ge yī wū' ts'i ka

ROCK GIVES A WAR MEDICINE

At a lake large rock beside it sweat-house when he-made beside it he slept. Four days by it he slept. Water he did not drink. He did not eat when he became thin. The stone said, "My son, I pity you. Why beside me do you sleep?" The young man said, "My father, old man being me give. Chief being me give. These two for them by you I sleep." The stone said, "You are wise, my son. Old man you will become. Chief you will become. Seven guns you will capture. My son, my flesh you may have. My son, it is I. My-name 'stone goes in the water.' Bullets from you will fall off. I pity you, beside me because you slept."

Stone what it said so it happened. Chief great he became. Old man he became. Seven guns he captured. One shot him then bullets from him fell off.

A PAINTED TIPI

Evening (†). Then I was killed. One day I was-dead. Then tipi inside I was sitting. Then man told me your tipi this tipi. Then for me he sang. Then it was morning. I woke up. Horse on it I was-riding was gone, saddle, my blanket, my coat, my-leggings, my moccasins, all were gone.

FINDING A BUFFALO STONE

Stone buffalo. Man his wives two. The opposite-side girl poor for wood she went. Dog with she-got it. Then some one singing close to her she heard. That place some one singing to it she went. Stone buffalo she picked up. It was this was singing. Buffalo wood buffalo corral where they made what they ate was none. This girl came back. "At dawn buffalo you drive they will go in," she said. "Buffalo are-coming," she said. Then stone buffalo she put down. She sang. Buffalo went in. Corral they filled. This girl poor man he married. Then that one girl

nī tēō wū ī mī L'a ga la dī da 'a t'ī gī gū ts'ī yī djin nī
 t'ī gī xa nī kū dilte yī djin nī t'ī gī nī t'ī gī
 gū ts'ī xa nī nī Lā 'a gū dja 'a t'ī ge gū ts'ī xa nī
 kū dal gwa gū dja yī gī ts'ī ka da sī tsa xa nī
 5 yī gin na yī gin nī t'ī gī

WILD PARSNIP GIVES A MEDICINE

ha li tsa gī dū wa sin nī ma gū nī ca nī ka ma k'a
 lī dī dac cī cū L'a ta⁶ nī yal la 'a t'ī gī na ts'iz zī
 gwa 'ī la ha li tsa mī tsa ga dī gū ca ga na gū da tiz la
 'ī gī cū L'a ta ha li tsa gwa dja gī la sin na 'a cū L'a
 10 mī tissa na gin na gī 'īn dī cū L'a gū nī na dī gī 'a la
 la sa nī na ha 'a ha li tsa tēi tē'a gwa nī na ha 'a
 cū L'a ha li tsa 'a dja xa na dūc ca 'a dja k gī t'ī gī
 zā' yī dū wa

⁶ *Heracloum lanatum*. Michx.

elder her place she sat. Then after that she sang then buffalo used to go in, she sang. Then after that buffalo plentiful became. Then after that buffalo came in it became. That girl from her stone buffalo its song they sang.

WILD PARSNIP GIVES A MEDICINE

Old man has died, I I knew on the prairie he was-wandering in the wild parsnip he went in. Then one-standing he saw. Old man his hair very white he-was leaning on a cane. There among the wild parsnip old man he had become. "My son, it is I, Parsnip its cane." When he looked again parsnip like it stood-again. "My son, like me you will be. Old man small you will be." Parsnip old man he became. He was-crawling out when he became only he died.

NARRATIVES

TCAGUCAGGA, THE WISE SARSI

- yū wū dzan na ha li tsa te'a gū cag ga miz zī' la
 gū nis nan na mis ka ka la t'a ts'it don na' 'is t'an nī
 gū ga la t'a 'al la k'as t'a ca tci ga da da gil L'ū'
 'as nī ts'i gūs ts'ū wa 'a ga 'i ts'in na 'i tci da nī'
 5 'a lal la yī ga cas tsī sīt L'a sin na t'i gī gū' yī ga
 'al lal la la t'a k'as 'i ka na gī gī 'at gū ga gī nī la
 xa sa dal 'il nil la 'is ga ka 'i xa gī gī dal Lī t'i gī
 k'as lai yī ga gīL t'i ha li tsa 'i 'i dī nī djū
 dīL t'an na k'as t'a lai gī gal tī ha li tsa 'i L'a ga na te'is te'i
 10 gū nī ts'i na nī ya mis ka ka 'i gī gī nī ts'i xa na te'is tsis se
 na gī nī dal la' ha li tsa 'i ha nil la 'a Lī sī dāL La 'a
 'i ts'a ha 'as ts'a sīL dīL ts'it sin nī na his t'ū 'i wa
 na nī dū na his te'a gū sa ga na gil lan na i tci da nī
 i Lil la las sī sī gal xal i 'i ts'a ha 'i 'i jil dji Lil la
 15 'i wa 'i tci da nī i Lil la gīL dīs tsit yī ga na dīs la tī
 gūs t'i ga yī ga na za na 'i dīs sī ha li tsa 'i ha gīs nil la
 tin nī ya' dū 'at da dīn nī dīa tī gī yal la nīs til la
 'al ts'is dīn na gī gī Lil la gī dīL tsit da t'i gī gū wa das sī
 Lī k'ū yī ga na ga nil t'ū
 20 'as nit ts'i gūs ts'ū wa zā' k'a na zit ha li tsa 'i
 yī ts'i gū nal la ha nil la sa gīL gūn nī gūL sin nī
 djū nīs t'ū ha 'a' ts'it da 'i 'ā 'is nil la dī tci da nī
 ta dī tan nī Lil la 'as k'a na dac yī yīL Lī Lil la 'i wa
 gīL dīL tsīt yīs sī hī gūL ga ka gīL L'a i tci da nī i Lil la
 25 na gīL gīL 'i t'a ka dū ha lal la na hī sī hī gūL 'i t'a ka
 ha li tsa ts'is dāc ga da na te'a tī ha lal la ha li tsa
 na gīs nal la 'as nī ts'i gūs ts'ū wa 'i la 'is teūt dī Lil la
 Lī gī dī cūj yī ga 'a nī t'i da tī gī la ha kī tci nī teū wū'
 'is nil la 'iL t'an nī gū wa xa nī gil la na da dāL
 30 'iL nī kū na gī gī da la la gī nil taz 'a t'i gī 'i L'ac gī
 gī nil taz dī ta ta gī dī dī tsal la gī mī ta ha gī mīL nil la
 ha t'a sas ts'it ts'i la ta dī das tsa gū

NARRATIVES

TCAGUCAGGA, THE WISE SARSI

Over there long ago old man Tcagūcagga was his name. Ten his children, all boys. Arrows for them all he made. Quivers tipi poles (?) he tied on. The youngest for him bone bow he made. For him bears-head small like a hat for him he made. All quivers when he untied to them he gave them. "Let us go out," he said. The young men went out then quivers they tied on. The old man himself too his arrows in quiver he tied on. The old man west toward he stood. His sons towards him east they stood. The old man spoke, "We are going to fight each other. The oldest first will attack me. I will shoot you. And you when I do not hit to me who runs up bow with he may club me down." The oldest shouting with and bow with attacked him. To him as he was coming just then his arm through he shot. The old man said to him, "Walk away. You are not strong." He walked away. He lay down. One after another with them when he fought then he hit them. Nine he shot.

The youngest only still stood. The old man to him spoke. He said, "You will not care for me. I too will shoot you." The boy, "Yes," said. His bow taking up with he walked back and forth while shooting. Then he attacked him. Although he shot him he ran to him. Bow with he clubbed him. "Why did you do that? Even if he was shooting at you, why old man like that when he shot you you do that?" Old man when he came to his senses the youngest his hands while he held he led him around. Of him he was proud. "This one great-chief," he said. Arrows for them he took out. "Let us go home," he said. They went in. They lay down. Then in the night when they were lying they were groaning. Their father said to them, "Why you have not boils do you groan?"

- 'a t'i gī gū ts'i t'e'as dīn na nī cī na i līl la
 na lī gīl dīl t'e 'as nī ts'i gūs ts'ū wa 'ī nī cī na 'is t'eū dī
 t'i gī tsīL i līl la zā' La sī da gūs tsal ha t'in nī
 dza na nī cī na Las sī das tsal ha nī da nī dza
 5 'as nī ts'i gūs ts'ū wa 'ī gū tī gīs mai gim mīt ta gī ma
 zā gīs da 'a t'i gī nī cī na gī mī k'ac gā' dza na
 t'eī t'eī nī na gī dal La 'ī wa t'i gī gim mī ta gim māk ka
 dī ya nī cī na ga na gī yal la ha lī tsa ha t'a nī t'i
 'is ts'i nīl la sīs ka ka 'a ka da ca 'a has ts'in nīl la
 10 da gūL dū wa ha t'e'a gū cəp ga mis ka ka La t'a
 ga gā ha lī tsa 'ī ha nīl la 'ā gwa gū nī līn na ka
 'a gīn nī La la 'a t'i gī gū nīs nān nī nī cī na yī ga la
 mīs ka ka 'a gī nī t'a'
 na dīs dja la dī ts'ai ya ts'i kū na gī dja ha nīl la
 15 ts'a t'ea na hīs ka ka La t'a ts'i gī gā' 'ī wa sī nī
 gū nīs nān na nī cī na yīs gā' mī ts'ai ya 'ī ha nīl la
 ha lī tsa da 'ī zā na ts'i zīs gā la ha lī tsa 'ī xa gī yal la
 'ī t'eī ta nī yal la kū k'a 'a da gū la La t'a 'ī t'eī ta
 kū nī da sīl la ga dī kū na gī dja la ha nīl la yū wū
 20 da dīl tsa dī i t'eī ta na nī na' dū na gī zīs ga 'a 'ī wa
 mī ts'ai ya 'a t'i gī na nī na la La t'a nī cī na 'ī
 māk ka ts'i dīs da la ma ga lī xas tīL la ts'a 'īl la
 mī 'ī L'ai yī k'a tsit dīn nīL tsīl la 'ī L'ai gī dā mī ts'i
 sīt dī dal la 'a t'i gī 'ī L'ai gī ha lī tsa 'ī kū k'a
 25 'a ta gū lai gī kū līt ta dī gī lal la La t'a dī lī t'ea ka
 da da gīs L'ū la La t'a i t'eī 'ī 'a kū nī dī has da gū naL La
 'a t'i gī nī cī na 'ī ha nīl la ka wa gū La na da dāL
 'is nīl la gī ma ga tsaz tsit Lān nī sa gī gī nī zīn nī
 'a t'i gī La na gī dīs yīz 'a t'i gī 'ī L'a tsī ha lī tsa 'ī
 30 nī cī na kū k'a gū wa na gī yal la na dīs dja la
 kū na gī ya dī ts'a ya has nīl la 'ān nīL dīs sī da nī cī na
 i.a na gīs zīs la 'a t'i gī dī na gī lī la gū dja
 lī gī dī nāc
 'at tsīn nīL t'ān na 'ī 'at dī 'is dū na t'eīs t'e'in na
 35 sīt dān na nāt dīt dīs dai gī dī ma t'i gī nī na gī dal Lī
 t'i gī ka dal gī gī nī ts'i ka gū gī nīj gī gī nī 'a ha ka
 t'eī t'eī gī gī nī 'aL La 'ī ta' 'ī dal t'ū ts'i da dāL
 'is zī 'a gīt ta 'al lī nī na na gāL LaL 'a t'i gī na gī na

Then after that by themselves Cree with they went to fight. The youngest Cree when he caught then axe with only he knocked him down. He did that long time Cree he knocked down. After a while the youngest led the war party. Their father, their mother only stayed. Then Cree killed them. Long time not they were coming back. Then their father for them went. Cree camp he came. "Old man, what do you want?" they asked. "My sons for them I came." They said, "Here near Tcagūcagga his sons all were killed." The old man said, "Yes, well you did to them." Then ten Cree he killed, his boys as many.

He went home. To his wife he went in. He said, "Old woman, our children all they have killed, but I ten Cree I killed." His wife said, "Old man this time only they will kill us." Old man went out. In the brush he went. Camp ground he fixed. All brush firewood he placed about. From it he went in. He said, "Yonder in the middle in the brush put the tipi. They will not kill us." Then his wife there moved the tipi. All the Cree for them came. His tipi smoke coming out they saw. This side of him where he could not see they stopped. At night to him they went. Then that night the old man fireplaces which he had made fires he lighted. All his dogs he tied up. All the trees were lighted up. He kept talking loud. Then the Cree said, "Tipis are many. Let us go home," they said. Of him they were afraid. There were many they thought. Then those they ran home. Then next morning the old man Cree camp place to it he went. He went back. He went in. His wife he said to, "As I told you Cree those ran home." Then they were saved. Well they camped about.

Those who were killed after them others seven boys were born. They went to hunt. Then they came back then lies to him they told. They tried to fool him. In vain they tried to fool him. "Father we shoot to we are going. Where we kill meat we will put there then

ha li tsa ʔi ʔā ʔis nil la gi dis da la tca tei ga
 ʔi gi siL gi la ha li tsa ʔi məs ti zā ga na nəc la
 gū lil tū zā ʔi da la ʔat t'a gū gū ɣan na ka
 hai gi nil la na hi ta has di ni məs ti ga ʔal li ni
 5 na nal ga gū lil tū dju ʔa t'i gi mi ga da ni gi nil la
 ni na gi ni dal di di gi ta ʔin na ga gi di gi ni ʔa lit t'a
 gi gi ni gi ʔal ha li tsa ʔi ʔā ʔis nil la ni t'i gi na gis na
 ʔi wa t'i gi na ni na ʔa li ni sil la ʔi ts'i ga na nal di
 da ni ʔi ga na gi git da mis ka ka ʔi ha gi nil la da ʔat t'a
 10 ha li tsa ʔi ha nil la ha t'a məs ti ha t'a dəl ni i
 gū lil tū ʔi ʔas da gū di L'ū k'a tū ʔal da ni
 ʔa tsan nət da si ni ɣal ʔai ʔis ni ʔi wa La t'a di tei
 gū li gi di gis sūz ha li tsa ʔi ha nil la La t'a ʔal lin ni
 ʔi k'a i gūL i ʔal t'as ʔi wa La t'a k'a nit t'a
 15 gi gi ga nis teūt La t'a ʔa gi nil t'a La t'a ʔis telz
 di si ʔi da na nal La
 mi ga na gi si nil la ʔa gi di di nal t'al i gūs t'i ga
 mi k'a sa teū ʔa gi nal has na ʔa di ga na ta di dil nis
 gi lil la ʔi ts'a ga t'ak ka di si ni mis ka ka hai gil nil la
 20 dū ts'is na di gwa t'i gi ʔi ts'ag ga t'a ka ts'it di nil la
 da ni ʔi ʔan nil t'a gi gūs t'i ga ʔis tcaz zi gū gwa di
 na t'ai dzil las si dū gi gis tsa kū na ni t'ai ʔa t'i gi
 di ni zā gi gi zis ts'i sis ka ka ma ka na di gal t'a di
 di na dū gas t'a gū la sa

FAMINE RELIEVED BY MAGIC

25 dza na gū sin ne ʔi ta mi ta ʔa t'i gi tc'a di tā
 ma ts'in na la mi ga tsit L'a mi tsa na ga zū la di ts'it da
 ka gis dla k'a ni t'at ts'i li gi gic nic di da ga ka tsit L'a
 gū si t'a la mi ga ɣat tsat di dji dji ni si ha gi la
 mi ga gil na dū wūs k'a gil teūz di t'an ni t'ag ga
 30 il dū wūs k'a ni t'az mū wūs ʔi dzaz zi wūs gwa dja
 ts'i ka ga gi ni ta ʔas tc'an nil tsal gis nil la ʔi wa
 ʔa ts'at ts'i gil tsil mi ga ha gi ts'in ni ta ɣan na gū di ts'i
 ɣat di nis da La t'a gi gi tcis gū lam ma gi gi di si ta
 dū ʔa gi gi nil tā ʔi wa t'i gi ma ga nai gi ts'in ni ta ts'it di
 35 gi k'a gil ka mū wūs k'a na t'a ka na di dil ʔaz

we will move there." The old man, "Yes," he said. They went. Beside cottonwood they killed. "The old man willow only by he camps, slough water only he drinks. Let us see he is wise," they said. "Our father we will tell, 'Beside willow tree meat we put. Slough-water too there by it food,'" they said.

When they came back their father to him they said it. At last they fooled him. The old man "Yes," said. "Over there I will camp." Then he moved camp. Meat lies to it when they moved, to the food they came. His boys said, "This is the place." The old man said, "Where willow tree where you spoke of? Slough water where is it? This prairie water do you mean? At last (?) you fooled me," he said. Then all wood he put on the fire. The old man said, "All meat fat even cook." Then all was cooked. To him they gave it. All he ate. "All I will eat, I said. Here put it."

Beside him they put it. He had nearly eaten it then his neck large became. While he ate his arms he lifted with bird like he sang. His boys said, "Not you eat while bird like you sing." The food when he had eaten just then like a hawk from them he flew. To the sky where they could not see him he flew up. Then singing only they heard. "My children on account of it you-acted foolishly people I will not pity."

FAMINE RELIEVED BY MAGIC

Long ago I my father his father then was holy. There was famine. His son small was hungry. His blanket foot skin he cut off. He put it in the fire. Calf's foot small it was cooked. His son ate it. Four days he did this. His son ate it. His leg he covered. Hawk feathers with his leg he cut off. His leg deer leg became. Woman to her he gave it. "Chop it in half," he said. Then she chopped it in half. His son she gave it. He ate the marrow. He had enough. All ate. They passed-it around. They did not eat all of it. Then to him they-gave it back. Blanket on it he put. His leg as before he put out again.

te'a t'in nī nī cī na gī dīs ts'a la la ka zā nī cī na
 ha li tsa L'ū ga na ta la L'ū ʔi Lil la ʔi nīL t'ū
 ma gū dīs dīa tī dī dji dzin nis sī gūs t'i ga tai gīs wūts
 dīs djaç gwa dja mī na' dji na ha gīL nil la ʔi t'a ka
 5 dī nən nī la ha ka gim mī nīL tī ha nil la ts'ā kū tī ga
 Lī da sūs kū na dīL la tī Lil la ʔi dī dī dāt L'ic
 xa gī ya Lī dī gī ya kū mīL dīs nūc Lī ta gī gūL
 nī dū wa gū ts'i L'a tsən na gūs t'i ga kū ta ta ka na cī dja
 mī lin na ʔi ka na t'a dū ma gū dī la ʔas da na dja
 10 ma na gū dīs la dī dji djin nis sī ka wa dīj gū
 Lī dī gī ya ʔaL da na t'ite ma na gū dī djaç cī ʔa t'i gī ka wa
 dū gū dja dī dīa dū gū ga yīL nī

gū dīs gal dī mīt ts'ai ya ha gīL nil la yū wū ha li tsa
 mī ts'i dī ca mī ga nīs ta gū dja ʔa na nīn na ha ka
 15 ha nil la ha nī nas sī gī ts'i kū gī yal la ha li tsa ʔi
 ha nil la ha t'a nī dja gū ts'i ka ʔi ha nil la nī ga
 nis ta gū nī ts'i dī cī ca ʔi L'a tsī sī ka la ts'i na dīs dja
 sī ka la gū dja na nī la ha li tsa ʔi ʔā ʔis nil la
 ha li tsa ʔi ʔis Lī ma gū nī lin ne ʔi wa gū sīL la dju
 20 gū ga nil la ha nil la da na dī dja nī ka la dī nəl la
 nī nī ya dī mī ka la gū dja na dja la

dī nī ka t'in nī ʔi L'ai yī ka ʔiz za ga dīs sit xa nī
 ʔai yī wa i Lil la i nīL t'ū ʔai yū wa gī tsa da ta ts'a
 ʔis nil la ha li tsa ʔi L'ū i Lil la dī na haL in nī gū dī nīte
 25 ts'ən nəl dī xa nī ts'is sis gī dī ʔis ga kū wa haL nil la
 ʔai yū wa ʔis tēi dji k'a nəl gīs sa ga ha gī gī ləl la
 ʔai yū wa dīL nī k'i mī tsa ga ʔi ts'in na gū mī tsa ga
 ta gī nī kai ʔa t'i gī la tas ts'a ha li tsa ʔi ma ga
 La t'a Lī gū ts'is sin la ʔi tēi ta mī L'ū wa i Lil la
 30 ʔa na ts'it dīs xal

BROKEN-KNIFE RELIEVES FAMINE

teū t'in na la miz zī məs mī kal tū nī ka gū dī dī yīs na la
 ma tsin na ʔa t'i gīs sin na gū gīs Laj la kū tsī gī da la
 ha nil la La t'a ha nəl dāl na hī da nī t'as sa da
 ʔi tēi t'a nī ca ʔa t'i gī gū ts'i dī nī dji gū ka wa
 35 gū mai ya tēit dīs la ʔi wa sas t'ūt gū la yū wū

Doing wonders Cree heard about it. One Cree old man herb he dreamed about. Herb with he shot. He became sick. Four days then he became thin. Black he became. His relatives said to him, "Why do you not get well? Try your best (!)," they said. "Outside fire very make." Fire it was started when he painted himself. He went out. He went in the fire. Fire blazed with him. Smoke went up. He was not. Short time then fire he came out. His flesh was as before. He was not sick. As before he became. He was sick again. Four days after four times he went in the fire. He became same again. He was sick again. After that he did not doctor himself. He stopped.

When it was night his wife said to him, "That old man to him I will go. By him I will lie. Well you will become." He said, "You may do that." To him she went in. The old man said, "What you come for?" The woman said, "By you I will lie to you I came. Tomorrow to my husband I will go back. My husband well make him." The old man "Yes," said. The old man horse good and clothes too to her he gave. He said, "Now you go home. Your husband will get well." When she came home her husband well was again.

This man secretly became angry. Buffalo marrow with he shot him. "Marrow when he eats he will die," he said. The old man herb with people he always does with. When they moved camp buffalo when they killed young man he said to, "Marrow may I eat break off to me give it." Marrow when he swallowed his throat like a bone his throat stuck in. Then right there he died, the old man. At him all laughed. In the brush his herb with they threw him in.

BROKEN-KNIFE RELIEVES FAMINE

It was a Sarsi. His name knife-broken. He led the camp. There was famine. Then he invited them. They came in. He said, "All go out. Your guns load. Here in the brush I will go. There from moose like camp from

- gū la gū nī 'a di ka wa 'aL nit tsī yī nis t'ū na
 sī zis ga ha dja la tī teiz zīl gī mit tsis na nat tsis 'aL
 La t'a ta na tsis La mī tsīL na mīl lin na teī tea zā
 k'a tsin nī t'az mis Lai a 'ī teī t'a na gī nī 'al la gāt dī
 5 ka na dī ya gūs tī ga gū k'a ka na dī La La kū na gī dī la la
 La dī na Lī dī na gū dī yis na ga dji ma tsin na la
 na gū yis Laj ha nil la na tsa ga nī zū dī la 'ā 'is tsī nil la
 'ī wa 'ai yī ga na ga 'as La ha tsit dīs tsī 'a tsit dī
 dī wūs kai gīL teūz mās nāt dī 'a dī wūs k'a nī t'az
 10 ta tin na na gī gīs Lās tcaz zī wūs gwa dja la mai yī wa
 'a na gū tsit dī tsī gwa nīL ta ma ga na gī tsin nit tal la
 tsit dī yī ga na yī nit tal la tsit dī 'ī k'ī za nī na nis teūs sī
 mī wūs 'ī ka na dja la
 La dī na Lī dī ma tsin na na gū wān nāl 'a 'ī kai yī gū
 15 ka teit dīL La gwa dī Lāl la 'ī teī t'a gū ts'ī mī teiL t'ū
 'aL nī tsī yī dīs t'ū wa gī zis gī nāt tsī 'aL La mī lin na
 sit L'a 'ī teī t'a na tsan na 'a nī ka na dī dja da ga
 kū na gī dja
 'is ga kū wa ka tū na ga dī t'al za na ha ga ka hī
 20 nas Lāc na ga wīl ga 'is nil la 'ī teī t'a nī yāl la
 ka hī gū na dī gī tas la mī tsīL t'ū La gūL ka dī tsit
 na gū haL i t'ī gī gū teī dī 'aL dū gū Lī ta 'al la
 k'a mī Līl la na gū tsī ga t'ī gī 'ī teī t'a gū ts'ī dī na gū
 ka na dī yāc
 25 ha nī da t'ī gī gū gī la t'ī gī ha nīc Lai yī ka
 has saL 'a 'is nīc 'ī wa t'ī gī tcaL L'ūL 'ī teī mas tsī
 dī teī L'ūc 'ī wa t'ī gī has da a 'a kin na nat zin na
 maL dī sūt tī gūs tī ga da teit L'ūc 'a kin na 'ī tī ga
 teiL tīc 'a La sī L'ū gū za mī za na hai gī teic 'a t'ī gī
 30 'a k'a dū 'a t'a sit da
 Lat dī 'is gī ya gū dja laL a ma gū dī lū la dī nī
 'is gī ya ma 'ī yī ts'ī dī yāl la ha gīs nil la sī za
 gū dja nī la nī ka na gī ca ī 'is Lī ma gū nī lin nī nī ga

I will run. Then shoot at me. Over there the last one where it stands camp the last who shoots me will-kill me." When he did that he killed him. They to eat him butchered him. All took it home. They ate his meat. Small only they cut off. His friends in the bushes they put it. From it he came back. Just then towards him he came running back. He went in again.

Another time he was leading the camp again there was-famine. He invited them again. He said, "You are-hungry?" "Yes," they said. "Then marrow for you I will make." While they were sitting there blanket his leg he covered. Knife he took up. His leg he cut off. Doorway he threw deer leg it turned into. Its marrow they got out. They all had it. To him they gave it back. Blanket under it he put it. Blanket one side when-he took his leg had become again.

Another time there was famine. He was leading the camp. Bull like he ran out, he made himself. In the brush from it they shot at him. The last one who shot him killed him. They butchered him. His meat small piece in the brush when he put he came out again. His tipi he went in.

"Young men, men load your guns. For you bear I will be. We will play," he said. In the brush he went. Like a bear he stood straight up. They shooting-at him he charged them. He threw them down then he-pretended to bite them. Not the blood was. When he-was done playing then in the brush from like a man he walked out again.

Sometimes he invited them then he said this, "My-friends do this to me," he said. Then bow string sticks both ends they tied. While he sat two men strong ones across his breast just they tied it. Two men very they pulled it. It was tied together only through him it came out. There still nothing wrong he sat.

One time young man he was doctoring. He was sick. This young man his mother to him she went. She told-him, "My son you doctor. I will marry you. Horse

- na ta 'a 'is nil la sit la ka 'i tsan na li dil la tsa
 'a ki yi kū nil la nī ts'i dī ca 'is nil la gwa 'i
 ha dja la kū yi yal la tcaz zī yis la na dī nī gis teū 'i
 ga 'is gi ya 'i ta gil ti gwai gi lal la tū ki t'a
 5 Las teū yi kit da yi djaj tcaz zī gis la 'i k'a
 na ga nī ka la 'i wa t'i gi tsa 'a ki yi 'i nat dī 'an nī
 'i tsan na dis k'a nī 'i yi k'a ta si 'al la yis tsil dī
 da nī 'a na zis tsal la 'a t'i gi ha dja gi tū 'i
 na zis tsal la ta gū ha dja la tū 'i kit da tai ki
 10 gwat tsa mas gin na si lal la ts'ā kū 'a k'a tsī dī yi la
 'i lil la mī ka tsī dis k'a 'is gi ya 'i dī na li
 'a k'a xa nī gū li mas mī ka tū nī dī t'an nī-
 dil glic cī 'i lil la ta nī kas si ka ki t'az la 'i gis la
 na ka tsit dis ka 'i ka ha li nas 'a ga teū gū ts'i tū teū ga
 15 na tei dī kəc yū wū ga kəl dī ka ha li ha ki dji
 mī ts'ai ya na kəl daj la ka nū k'a 'a na tsit dis hal la
 mat dī mīl lai ya 'i lil la hat tsis kil la yi t'i gi
 kū gi gi gi kil la 'a t'i gi 'i ka ha li teū t'in na 'is si na
 hai gis nil la ha kū tea ga nī gi la ta mis t'ū te da ga dī gət dī
 20 kū nī tsī gi yi ya ha 'a 'a t'i gi ha nis tsin na 'a dij gū
 'at dit la dī gi mis t'ū ti dī t'a 'an nil 'in nī nis tsin na 'a
 ha dī gi nī dī gi ha na teis dji da ga dīt tan nī 'i na dis ti
 'i ka ha li teū t'in na 'i yis nil la 'a t'i gi sin na ha kū tea ga 'i
 yi gi lal a mis t'ū ti 'i ts'i kū mī ts'i gi gi yal la
 25 ha tsin nil la 'at dī da dī gi mis t'ū ti nət dī 'a hī
 ha nil la dī gi 'i ha na teiz tsī da ga dīt tan nī nət dis ti
 'is nil la has tsit dī gi nil la dij gū 'a t'i gi ma ga
 yi tsī nī ta la
 'a t'i gi gi lil la na dī yal la mis lai ya 'i 'a k'a
 30 tū da ka li dī yas la ma tsin na na tei gis kil la
 'i wa t'i gi ha nil la las sa ts'i ta kəc ca 'is nil la
 'a t'i gi mī tea si nil la gū tsī dī zal la 'a li ta ta ka si ya
 'a tsil lal la gi mat dī ha na tsis kil la 'i wa t'i gi
 ha tsin nī tea si ha gi 'a 'i lil la dī t'an nī dī glic cī
 35 'an na gim mī tsil dil hal 'a t'i gi gū ts'i gis da la dī nī
 tsa si ha gis 'a mit tsit dī gai yi gū 'a dī lal la dī t'an nī-
 dil glic cī tūl gai ye gwa dī lal la na ki t'ai la nis ga gū ti

good to you I will give," she said. "Before I come manure put in the fire. Stones two take in. To you I will go," he said. The mother did it. He went in. Deer its skin he spread beside it young man stand on all fours he made. Water in it yellow paint in it he poured. Deer skin on he placed it. Then stones two he picked up. The manure burning on it he placed. When he hit it a gun it sounded like. There when he did it water made a noise. Three times he did that. Water inside three times a lump from the body was in it. Outside fire still was burning. With it he burned it. Young man got well.

Still buffalo were knife broken, hawk variegated with steamer they two went on board. Hides they shipped down. White man Edmonton from to the large water they sailed. Over there while sailing white man captain his wife because he made free with island he threw him away. From him his friend with he sailed off. There they came in. There white man Indian⁷ was there. He told them, "Chiefs when they invite you pipe where it hangs they will take you. There they will ask you four times which of these pipes will you have, they will say to you. You say this where the sun rises which hangs I will take," the half-breed said. Then chiefs they invited pipes to they took them in. He was asked, "Which these pipes will you have?" he said. "This where it goes up it hangs I will take," he said. They said it to him four times then to him they gave it.

Then with it he went home. His friend still on the shore was walking around. He was hungry. He sailed up to him. Then he said, "To my friend I will go ashore," he said. Then they would not let him. He struggled (?). At last he went ashore they let him. From them they sailed on. Then some one said, "Crow who lifted up and hawk variegated they threw away." After that they stayed there. This crow who lifted up white headed eagle he made himself. Hawk variegated big goose he made him.

⁷ Halfbreed.

nī na gī nī t'ai la 'a t'i gī gū ts'i ka hī 'a dī ləl la tsa si-
 ha gīL 'a dīL lai 'a nat dīs gīl la 'is da na t'i gī
 'is dū wa 'a na dī 'ic 'a k'a sū kū l'ū k'a nī na nī na gī nī gīl la
 'a t'i gī gū ts'i na ka t'as

- 5 nī cī na sas dīn na ma ga la ts'i. kū gī gī t'az la
 gī gī ka 'at tsa la tsa sī ha gīL 'i ha nīl la za ga
 mit ts'ai ya 'i līl la tsit da gəc mis lai 'a ha gīs nīl la
 ts'i ka ka 'a nī nī tsī dīs hal dī 'i t'a ka 'at dī nī 'is nīl la
 'i wa t'i gī ha na kis t'az la kū yī na gī gī t'az la mis t'ū tī 'i
 15 nas 'a ga tēu ga na tsin nī ta la gī gī ts'i dīs kī la gū zīl a
 gī ma ga tsin nīl la la dīj gū mis t'ū tī 'i gī gī līl la
 nat dī yəl la

A CAPTIVE SARSI BOY ESCAPES FROM THE SIOUX

- yī wū' ts'as sū wa tsū t'in na ts'it da yīc teūt
 yī t'i ge ha kīt dī tī dī nī' ts'it da dī ga gwa la
 15 ha kīt dī 'i ts'it da 'i 'as nīl la la sin nas tī k'a
 na dī gī dja gōL na dīs da yī nīn nī zīn da sī na ga
 dī gī nī la sī na ga dī gī nī na dīs da yī nīn nī zīn da
 'i wa t'i ge da 'a kī yī k'a 'is lək ka ma gū nī līn nī ka
 na dī gī dja 'a t'i gī gwənt dī 'is lək ka ka dī ya
 20 gwa dī dīa 'a t'i gī gū ts'i nīs k'a' na tsī dīs l'a ka
 'a kī ye zā' na dī ləl la yī teit dī nī dū wa ha t'a
 ts'as dīn na dīs dja tsa ta' na gī dal lī 'i wū
 'i tēi lət dī na zī 'an na tēis k'a nīs da mət tsin na
 dī gī līt ma 'a na gūc tean na ts'it das kən na kā wa
 25 gū jək k'a
 dīj na ta dīs ts'in na 'is lī gas sūL la ma ga
 na xa cī gī na da t'ən na 'ən nī t'a i 'is ts'in nīl la
 tsū t'in na 'a nīs t'a 'is nīl la lək ka zā 'is gī ya la
 ta gīs tī gī gī līl la na tī la kā wa gī gīL līl la
 30 nī nūn nī dal da nī ta zīl le 'i līl la gī ga nīs teūt
 'i wa t'i gī dī gī ta zīl le gī zīz la dīs dīai la
 'is lək ka t'ək k'a 'i nīl lū wū' mī zək k'a xai gī gū 'i
 tēis tē'it dī 'i līl la mī zīt da yīs dləl la dī ne k'a t'in ne
 yī ts'i kū gī ya 'i 'i gīs nīl la nī na dī dza 'i da gū
 35 nət dī na 'i wa t'i gī na gīt dīs nīk' təz zīl lī 'i da sī la

They flew up. Main land they flew across to. From there bear he made himself. Crow he lifted up his friend he carried on his back. He was tired then another he turned-himself into. At last prairie he brought him to. From there they two walked back.

Cree by himself his tipi was to it they went in. With them they ate. Crow lifted up said, "Let us kill him; his wife with let us run away." His friend said to him, "Because of a woman since they threw you away why do you say that?" he said. Then they went on. They came in. Pipe Edmonton they left. To it they went. Clothing to them they gave four times. Pipe with they went home.

A CAPTIVE SARSI BOY ESCAPES FROM THE SIOUX

Over there Sioux Sarsi boy captured. Then chief this boy his son he made. The chief the boy he told, "My son, without my knowledge do not go home. I will go home, if you think me tell. My son me tell, I will go home, if you wish. Then two horses good ones you may go." Then from him horses for he went he pretended. Then after that on foot he ran back. Moccasins two only he took. Food was none. That way just himself he started back. Through the mountains he was coming back. Over there High river other side hill he sat down. He was starving. He was weak. Beyond him little ways Piegan tipis few were.

Four people were riding. Horse they were leading. To him they rode up. "What tribe are you?" they asked him. "Sarsi I am," he said. One young man put him on a horse. With them he took him back. Tipis with them he came back. Food, soup with him he gave. Then this soup he drank. He breathed out like horses. Hail stones from his mouth came out. Seven there were before him they lay. This man to him he went in he asked him, "Will you pick them up?" "Certainly." He put them in his mouth again. Then he swallowed them. The soup it was came out again. His

na dis kū yī yīs lai ya ʼa kī yī k'a ʼis lək ka
 ma gū nī lin ne k'a ʼi wa gū zīl la yī ga nī la
 ʼi wa t'i gī tsū t'i na ts'i na dis l'a ʼi wū tsū t'in na ga
 ts'in nī dī ne tsū t'in na ts'it da ʼi dis lai ya ʼi
 5 ʼas nīl la yū wa' tsū t'in na ts'i na da l'a na gī dis l'a
 ʼi wa t'i gī kū wa ga l'a tsū t'in na ts'it da ʼi
 mī ta lī te'ək ka nī lā nī tī dī ta ʼa kī gī gī ta dī nī
 ts'it das ka na ʼi ʼis t'a na dī yāl la ʼa kī yī k'a
 ma gū nī lin nī k'a yī ga nīs tī tēi gī ca nī lən nī tī
 10 yī ga nī la ʼa t'i gī gō wa na ts'a t'in nī nī nai dja dī

A LAME MAN CAPTURES HORSES

ha lī tsa tsū t'in na dī k'a hī gī zīl gī dza na kū
 sī nī ʼa k'a dū dī dis sīt ʼa t'i gī ha lī tsa ʼi ʼis kī ya
 ʼi lī ʼa lī ts'i dāl dī mū wūs k'a ts'in nīl te'a
 l'i gī sī k'as sī mū wūs nən nīs teūk gū na nī nie ca
 15 mū wūs ʼa ta gū lī līl la ta nīs da gū dī gīs ma'
 yū wū gū za dī nī cī na ga ʼi l'ai gī ʼis lək ka
 gī nī ʼi kū gū wa na gī yī dāl ha lī tsa ʼi gūs tən nī ka
 ʼis lək ka nīs ʼi ʼa t'i gī ʼi l'i gī gū za ts'i na gū nī wūt
 na gū dī gāi ye ʼa k'a' gū na wūL dī lī tca ʼi ʼa k'a'
 20 ta sī da
 ha na gū nī gī wūL a nī cī na ma na gū nī sīt k'a da
 ʼi na gīL ʼin nī nī dza gwa ʼi' ma na gū ts'i nīs sīt
 na tēi gīl l'a ʼis lī te'a zit da dī ya ts'i yī ga nīs tī
 nīs ts'it ʼa t'i gī sīt tin ne gū l'ū wa zā' dīl nū
 25 nī cī na ʼi yī ka na gū nī cite ʼi wa t'i gī yū wū
 win nas dīn na' ma ga zin na gū ka tēi dī gīl l'a ts'a ʼi
 nī cī na ʼi ha nīl la ma ga zin na gwa dja la ʼis lək ka
 zā' na' gī dī wū la nī cī na 'i ʼa t'i gī dī na gū
 ʼan na dja la na dis dja yī līl la ʼa la ta nīn na ʼi yī ga
 30 nī na ha cī gīl na ta ts'is tīl la ka wa mī līl la
 nī na ha cī nī na
 ʼa lī sī dāl dī sī da lī līl la gū kən na na līl la
 nī cī na ʼil t'ūL la nī cī na te'is te'ā mī za na
 dīl la ʼi gūL i dū t'a gū lī ʼa k'a' ʼi dī te'as la mī zī k'a
 35 te'is te'a la dī dī t'an nī ʼi mī zī k'a dza t'a ga da dī nīl k'a
 ʼi gūs t'i ga nī cī na dīl gīz mīL na ts'it dīl dāl

friend two horses good ones and clothes to him he gave.

Then from Sarsi one came. "Over there Sarsi camp," he said. This Sarsi boy his friend said, "Over there to Sarsi we will go." They went. Then they came in. Sarsi boy his father's horses very many his father. Two he slept. This Piegan in turn was going back. Two horses good ones to him he gave. Cloth very much to him he gave. Then they saw him again when he came back.

A LAME MAN CAPTURES HORSES

Old man Sarsi smallpox killed him. Long ago I yet was not born. Then the old man young man was. When they were fighting his leg was shot. Left side his leg crooked it grew. His leg even then with he rode. He led a war band yonder far away Cree camp at night horses they were to steal there they came. Old man six horses he stole. Then that night far away he drove them. At daybreak still he was driving them. His own horse still he was riding.

While he was driving them Cree him overtook. Behind he looked then he saw them. Him they overtook. He jumped off. Horse away from he walked. Face down he lay, his eyes shut. Then he was lying grass only a bunch stood. Cree for him were running about. Then yonder across the river like a wolf he ran up the hill. They saw him. The Cree said, "Wolf he has made himself." Horses only they drove back the Cree. Then like a person he made himself again. He went back with those accompanying him him they overtook. They put him on a horse. Camp with him they came back.

When they were fighting he was sitting with defending them with Cree while he was shooting Cree shot him. Through him though it went nothing was wrong. Still he was shooting. In his back he was shot. Bullet on his back like gum it stuck on. Just then Cree withdrew, then they went home.

A BEAR BRINGS HOME A CRIPPLED SARSI

gī tī tsan nī ga dji win nī ga da dis ma na ts'a sū wa ts'i'e
 na ga dīl dī 'is gī ya la na ts'it dī tsa mū wūs
 'a xan na dist'as gī ga ga na nīs t'i dī gī ga dī na dīs dal
 nī lən nī kwī yī ga yī tā 'i gūs t'i ga nī nī ga yī ts'i
 5 kū yī gət 'i wa t'i ge dī gī nī nī ga 'i 'a gīs nil la
 na gas t'a na dī t'as 'i wa t'i gī 'ā yīs nil la 'i wa t'i gī
 nī nī ga 'i yī ga na ga la 'is lək ka t'ək k'a yī k'a
 tən nīs da la 'is da gī djet dī 'a t'i gī gī gīt tā la
 tī na gī gī t'as dī yī k'a ta na nīs da la ga dji ga gū ka
 10 na gī dis gil la tī ga L'ag gī gūs t'i ga kǎ wa
 nī na gī nī gil la kǎ wa gū ta' na gī ya 'a gī la la
 ga dī 'is dū ts'i na dīs gəl la ts'ā xa gī yal la ma ga
 na gī yal la 'i wa t'i gī mī na djin na ga kū na ts'i gīs til la
 'i wa t'i gī xas ts'i nil la da nī na nī dja 'a 'a ha nil la
 15 nī nī ga k'a ta sīs da 'a 'a yī t'i gī na sī ts'in nīs tī nī
 gū ts'i 'i t'i gī gū ts'i na sa gəl la t'a 'is nil la

TWO HAWKS TEST THEIR SPEED

'i zūl teū 'i wa 'is gā nī dal 'a lī ts'i ta za gī dī təl la
 ka tin nī gī mī zīs ts'i la 'is gā nī dal 'i ha nil la
 sa xan na 'ət da dī dī lā lī k'a 'i ha nil la dī da 'a
 20 nī xan na 'a da dī dī lā 'al dīn nī 'is gā nī dal 'i ha nil la
 tcīs t'a gūs tī ga 'a t'i gī 'a da dī dī lā lī k'a 'i ha nil la
 dū ha t'a 'ət da dī dī lā 'is nil la 'i zəl teū 'i ha nil la
 sin nī sa xan na zū tca zǎ' 'ət da dī dī lā 'is gā nī dal 'i
 ha nil la 'i tci tsī yī t'a t'a yī ga na t'a hī zit da
 25 'i gīs teūt la dū ha t'a 'at da dī dī lā tcīs t'a gūs ta gī
 yī ga 'a lī ka nī gī gū la dī nī 'is gā nī dal 'i
 'i zūl teū 'i gīl dīl ts'i la dū zīl gī la 'is gā nī dal 'i
 ha nil la sīt da gā sīt da da na ga sa xa na zīs gǎ
 'is nil la yīl dīl ts'il la nī lən nī nai gīl dal 'i zəl teū 'i
 30 ha nil teūt dū gī zīl gī na ka zū tca 'a ka gī dis t'ai la
 ka dī t'ai dī 'is gā nī dal 'i i līl la dīs tsil la 'i tci ta
 dīs t'ai dī gūs t'i ga yī ka dīl la la yī zīl gī 'i zəl teū 'i
 'a gī nīs teūt yī ga zǎ' yī ga la dū 'at da dī dī lā
 'i zəl teū 'i

A BEAR BRINGS HOME A CRIPPLED SARSI

Several Blackfoot south went to war. From Sioux when they were coming back a young man was. When he fell stone his leg cut off. For him they made a shelter. From him they went back. Many times in it he slept then bear to him went in. Then this bear said to him, "I pity you. Let us go home." Then, "Yes," he said. Then the bear for him stood. Like a horse on him he mounted. When they were tired there they-slept. When they started again on him he mounted. Blackfoot camp to it he brought him back. Late-at night just camp he brought him back. Tipis among he get off he made. From him different direction he-went off. Outside he went out. To him he went up. Then his relative's tipi he carried him in. Then he-asked him, "How did you come back?" he said. "On-a bear I rode. Over there where they left me from there then from there he carried me," he said.

TWO HAWKS TEST THEIR SPEED

ʕizɔltcū and ʕisganīdal to each other while they-were bragging a man was listening to them. ʕisganīdal said, "My buffalo are swift." The other said, "Which-ones your buffalo are swift do you mean?" ʕisganīdal said, "Swallows those are swift." The other said, "Not at all they are swift," he said. ʕizɔltcū said, "I my buffalo zūtea only are swift." ʕisganīdal said, "Tree to it it flies there it flies before I can-catch it. Not at all it is swift." Swallows for him together he drove, this ʕisganīdal. ʕizɔltcū flew at-them. He did not kill them. ʕisganīdal said, "Where-you are sitting sit; this time for you my buffalo I will-kill," he said. He flew at them. Many he threw down. ʕizɔltcū he gave them to because he did not kill. zūtea for them they flew. When they flew out ʕisganīdal then flew at them. Trees were flying to just then he caught-them. He killed them. ʕizɔltcū he gave them. For him only he killed them. He was not swift ʕizɔltcū.

A BIRD HAS ITS MATE DOCTORED

ka t'in ne ta si da mi tsi di l'gai ye 'iL t'ũ gũ diL L'a
 mi tsi di l'gai ye dis ka ka ga ta si da 'a ki mis ka ka
 ka t'in ni 'i 'i niL t'ũ mi mi zõ na 'i diL La na t'ai di
 win nas din na tũ teũ ga nis da tsi yi gi tsi gi si gũ ts'i
 5 mi ka la k'a na di t'ai dis ka ka ga tan nis da mis ka ka
 mi na ga di gin ni sil la 'i wa t'i gi di ts'ai ye ka di dis t'ai
 yi ga nis da di te'ai yi 'i 'a ga gi gil li gũn nis dja
 tsi yi ga k'a si di te'ai yi 'at di La gil La gũ tsit L'a
 dza na 'a gũ dja ki 'is ga ni dal 'i Lil la k'a na di t'ai
 10 da ts'i ka siL ti ne gũ ga na gi nis da 'is ga ni dal 'i
 ts'i ka 'i mai ya Li L'at di di dal 'i dji ni Lil la ni na La ti da
 'ai gi la dza na ha giL 'in ne 'a Li ta di na li
 na gi gi t'aits na gi nis da ni na gi t'ai di 'a t'i gi
 ts'i ka 'i gũ dja na dja ka t'in ni 'i mi tsi di l'gai ye
 15 niL t'a si t'ai dũ gi t'i na ni t'ai 'a t'i gi na ka diL La
 tũ 'i giL La tũ da ka k'a tas lan ni ta ga gi sũ
 'is gan ni dal ts'i na gi giL nij 'is ga ni dal 'i 'iL na
 k'a ni tsat di mi tsi di l'gai yi ka 'i yis t'a 'i giL na
 k'a gi ni tea di gwa di na dis t'ai di na 'a kin na
 20 di git t'ũ ts'i na gi dis t'ai di na ti 'i ka t'in ni 'i
 ha gi ni zin na yũ wũ ta ka gi gis tin ni nas 'i gi ni zin na la
 gi ts'i di ya yi ga na gi yat di tas lan ni teũ la
 gi gi zit tsi gwat tsa

A FIGHT WITH A BEAR

Li ki zã i k'a t'i ne dza zi 'is t'ũ kũ dis L'a dzaz zi
 25 yi gũL Li yi 'i na sa di ya gũs t'ig ga mi ni ts'i
 ni ni ga miL dis tsit yi ts'a ga da ga dis tsũk di tei
 ni La ni gi L'as si yi tea ga ts'i L'a di ni di na 'i 'i tei
 'i ni teũt ni ne ga 'i di tei 'i zã' 'as L'a yi ni
 yi 'aL 'i t'i ge yi ts'a ga k'a da 'i da dis djiL mas
 30 xa gi 'a gi tsal Li nit dza di tsi ga na nis tsil ni ni ga
 tsin na tsi gũ di gis L'a yi ts'i gũ dis nate na ni zit
 gis ni gũ ni ts'i di ka di nis L'a 'i wa t'i ge gis teũt
 yi ziz gi mas i Lil la

A BIRD HAS ITS MATE DOCTORED

Man mounted. Its head white he to shoot rode off. Its head white beside her children was sitting. Two her children. The man shot her. Through her belly it went. When she flew up the other side by the lake she sat. From the east after that her husband flew back. Beside his children he sat. His children told him. Then his wife after he flew. Beside her he sat. His wife to fix her he tried in vain. East side his wife without he flew. Short time when it had been hawk with he flew back. There woman lay beside her they sat. The hawk the woman around sitting sang when she sat up he made. Long time he did that, finally she was well. They flew up. They lit again. When they flew up again then the woman well became. The man its head white sky flew up, he could not see it. It flew up. Then it came down again. Water it went in. Shore on water serpent it dragged out. To hawk he offered it. The hawk began to eat it. When he finished eating it his head white in his turn began to eat it. When he finished eating it from it they flew away. These two to their nest flew back. The Indian the man thought, "That-yonder which they dragged out I will see," he thought. To it he went. To it when he came up large water serpent it was. Its upper part they had eaten.

A FIGHT WITH A BEAR

One man moose he shoot he rode. Moose walking he saw. In front he started just then in front of him black bear chased him. From it he ran. Three leaning on a stump behind he ran. This man tree he caught. The bear the tree only he ran against. Its face he bit. Then from it back he moved. Knife he drew. He struck it then his nose he cut off. Bear old away from him ran. To it he spoke. "Stand still," he said. To him back it ran. Then he took hold of him. He killed him knife with.

CURING MADNESS RESULTING FROM A WOLF BITE

ha li tsa mī sū wa tsit da sit L'a kū ta si
 yī dis tsū la ka wa gū wa na gī dis la tsī gūs t'i ga
 ma ga zin na nis gīl nī gī mī ka na gīl la la tsit da
 sit L'a 'i 'i tēi ma ka tsī gīl la sit da 'i dis sī ga
 5 ka dī gīs teū li gūs t'i ga ma ga zin na 'i mī teil tēi
 k'a nil teū ha gī lai gī 'a la ta ka gī dūz ma ga zin na 'i
 gwa dī 'is dū ts'i dīl la ka wa kū gī yī t'as dī
 ha li tsa 'i kū sīl sit dī nis gīl mī te'a ha tea giz
 kū lit da sūs sa ga te'a kū lī tsī tī gī la dī lī yī gī ya
 10 dū ta gū lī ta ka na cī dja 'a t'i gī dī na lī

MINOR NARRATIVES

I

tū teū wa dī k'a ts'in na nis tin hī k'a ta zī k'a
 'i da xa gī 'a 'i wa t'i ge ts'i da tēi te'a lī
 ga gaL lī yī nī teūt yī ga nī dū yī dī tsit mā
 yī k'ān nis tsil 'i wa t'i ge tū yī ga na gīs nat
 15 nis tin ne ta nis oits' yī wa t'i ge tū wī gī gī kī lan na
 nī wa ta kas gīz lan na ta k'ān nas gīs

II

tū teū ga xa nī dī k'a sit da tū da ka dī 'a kin na
 ta sī da na' dī na teū 'aL t'at dī ts'i yī ga sī tī la ga
 na gal lal la lī ka ha nil la na sī min nī na nī 'a
 20 lī k'a ha nil la ta ga dī na 'a' 'is nil la lī k'a 'i
 ha nil la 'a la dī nī lī k'a 'i 'i tēi i līl la yī ts'ū za k'a
 gwa nī gīz la na ya' gīl nil la gū na gīs gaz dī mī na ga
 da dī k'az la ta ga na dīs dja la lī k'a 'i ta ga na gī dīl gīl
 ta za k'a gū wa na dū wa la ta ga dī na la

III

25 yī ge tū teū xan nī tī ts'iz ziz gī na 'a' 'a kin na
 dīn na na 'a gī yī zis gī 'i wa t'i ge na gī gīL 'aL
 gī gī tea nis 'aL gī gī tea nis 'aL dī mī tean nī xa gī gū i dī
 tū teū gū 'a dja 'a tēi teik k'a la yī wa t'i ge tū teū
 gwa dja gī gī teā ta tea gī gī dīt dis lāt dī na gī gīn nī la
 30 mī tean nī yī mī k'ās sī' tū dīs na 'i wa t'i ge tsis ka

CURING MADNESS RESULTING FROM A WOLF BITE

Old man his grandson boy small to the camp he-
led him. Tipi to they nearly came just as wolf mad
after them ran. Boy small tree climbed up. The boy
his grandfather as he pulled him up just then the wolf
his hips he caught. He was doing that at last he climbed-
up. Wolf from them another direction ran. Tipi
when they two went in the old man fire when he smelled
he became mad. From him they ran. "Fire make for me
outside." Fire when they had made it he walked in the fire.
Nothing wrong he came out again. Then he was well.

MINOR NARRATIVES

I

Lake on they went ice on. Middle horn stuck-
up. Then boy small dog was dragging he took hold-
of it. He let go (?) he would not (?). His mother
chopped it off. Then water from it he moved. Ice
broke to pieces. Then water they fell in. Some over-
there ran ashore. Some ran back ashore.

II

By a lake, buffalo painted by the shore two persons
were riding. Large man naked face down was lying.
To him they rode up. One said, "He has been swimming.
He is one of us." The other said, "He is a water person,"
he said. The other said, "You are right." The other
stick with his loin he poked him. "Get up," he told-
him. When he looked his eyes were red. He ran in the-
water. The other hit him as he ran into the water (?). The-
middle he disappeared. He was a water being.

III

Over there lake buffalo was killed. Two men people
killed it. Then they butchered it. They took the entrails-
out. When they opened it its entrails flowed out like-
a lake it became each way. Then lake became its intes-
tines where they dragged them they put them on the-
ground. Its intestines where they dragged water flowed.

gū tsī L'a 'a dja na gī gin nī la dī tū teū gū 'a na dja
 Lū k'a tū teū i ts'ī Lū k'a 'as kən na 'ōL tsis ka
 gū teī L'a yī ts'ā

IV

ta din nīL tsī na ha cī gūL naL dī teis k'a ka haL cī
 5 gī gīL na la ka za ta sit da xa nī ha gī cal 'a lī nī
 na dī sail ga gī nī gī gī tsī 'il tīl na ka ha cī gī nīL na
 ka ha cī gī gīL na nī dī na 'ī nī dū wa Lū na zā
 gū L'ū wa miz za na xa gī 'a 'a t'ī gī sīL tī

V

din ne k'a t'in ne 'ī dīs sa dī xa nī mək ka
 10 zis gīL la na ts'is 'aL dī tea gūs da la tea gīs da 'ī
 na ts'it dīs tī 'a ka ts'ī la 'ī zit da mī tea ts'in nīL la
 nī dza te'a na gūs dāl la

VI

ka gī zī ma zin na ts'ī ka gū 'a dī 'ī cī 'īs kī ya
 'īs Lək ka ka dī yāl la na gī dāl dī mī zit da na gī zīL la
 15 ts'ī ka ma gū nī līn nī gū 'a dī dāl la 'ī wa t'ī ge
 yī ga nīs dal la dī nī 'īs kī ya 'ī nīs gī la ta sī tsa la

VII

nīL tsī sit L'a dī dī la dī t'ī gī dī ka 'a kī gī Lən na
 'a ka gī gī dī 'in 'ī wa t'ī gī gū tea kū gī dī jīj

THE WAR DEEDS OF EAGLE-RIBS

'a ka dī gū t'in na ga dji teū t'in na nī cī na
 20 na ka ca xa gīL ziz 'ī wa da nas 'ī ga 'ən na Lən na
 kū gī ziz teis iL gī nī cī na sīL tī 'ī wa sī nī ga dji
 ha lī tsa sa t'a mī sət sa dī na 'a ga 'ī gīs nī
 mī tsis La tsis sī dī gīs te'ūL da gū nī t'a gū na mī sī
 sis gū məs i Līl la sis gū a 'ī wa sī nī i dū cīs te'a
 25 sīL t'ū gūL dī t'ī gī ka ha kī teī 'īL djin nīc na 'a nīs t'a
 yū wū sī La 'a ka dī na tsin nīL dī ta na 'ī sa Lī
 wūs sa ha ha cīs ca na gī nəl gū gīs 'ī k'a na tsin nīs
 t'ī gī gūs t'ī ga nī na ha cī na na 'ī wa tī ha dīs sī

Then creek small was formed. Where they put it like-
a lake became again. Fish lake toward it fish swam-
back and forth creek small from.

IV

Men who were riding as they were riding along on a hill
up they rode. One was riding, buffalo he was chasing.
Meat we will get they said. To him they rode. Down-
the hill they rode. Up the hill when they rode the person
was gone. Mouse only straw through it was stuck.
There it was lying.

V

This man when hunting buffalo cow he killed.
When he opened it unborn calf was in it. He took it home.
They put it in the pot before they opened it then another
was inside of it.

VI

Wolverine girl turned itself into. Young man horses
he looked for. When he came back in front of him she stood.
Girl handsome she made herself. Then he married her,
this young man. He went crazy. He died.

VII

Wind small it whirls then their mother they own
for her they look. And in her abdomen they go in.

THE WAR DEEDS OF EAGLE-RIBS

Two tribes Blackfoot Sarsi Cree to fight they-
ran out. Then here fort they had made they went in.
They killed. Cree was lying dead. Then I Blackfoot
old man with me his dead body this one for I caught.
One side of his scalp I tore. How many times his back
I stabbed. Knife with I was stabbing him. Then me
they did not shoot although they were shooting at me. On-
account of this chief those they call I am.

Over there I was. Two places there were tipis. Three
we were ahead we went. Coming toward us I saw.
They were finishing putting up the tents then just we-

- na ga na tsī gī dal ʔ t'a ka na nəs na i līl la dī sūs t'i gī
 mī nī tsī ʔ sīl dal nī cī na ka t'i nī dī ts'ai ya ʔ s lī k'a
 ta sis xal teit dīl la dī ʔ s ga ka gūn na gū nis sī t'i gī
 gī zīl gī sī nī gī na ga gī na ʔ līl la mī ka la sis sīl gī
 5 ka t'i nī ʔ na ʔ l sit dī gūs t'i ga mit tsa ga ʔ gīs nī
 mī tsī k'iz za na dī gīs te'ūl a ka gū zā' mī zī sis gūt
 məs ʔ līl la ʔ wa t'i gī kō wa ʔ a kū ha sī la
 ʔ wa yū wū na dī sis ma na lī gū nis na na zā'
 ʔ s sa lī ʔ a t'i gī ʔ l'a gī wū sa da ca ʔ nī cī na
 10 gī nī ga lī tea ʔ l teū la ga dīl dī na na tsīl la
 nī cī na ʔ sa lī nī sa yī nī zīn ʔ gū t'i ga ma ga
 ʔ dī nīl sīl tsī yū ʔ s lī da gīs l'ū mī t'i gī na hī ts'i
 da nī ʔ līl la dī ya sī nī k'as lai yī ga sis tī
 na ga , na gī ya gūs t'i ga ʔ sīl dūl ʔ s lī da gī l'ū nī
 15 ts'i nəl sit dīl la gī mīg gīs līl teī teī sī nī ts'i
 ta nī da ʔ s lī ʔ yī dī gī tsī i sīn nī ts'i sīl t'ū gū
 lī ka dīn nīl la ʔ gū lī mī ts'i gīs līl dī dī gīs teū lī
 sit dīl la dū sīn nīl t'ū i gū l ʔ k'a gī sūl ʔ s lī
 gīl teū tī mī nī gī ta tsin nis da mīl gī tsit dī sa
 20 gā dji yī k'a ta nis da nī cī na ʔ ts'i da nī
 dū xa gīl la nī cī na ʔ tī na tsīl la ʔ wa yīl nəl dīl tsī
 na gīl t'ū dī da nī dū xa na gīl la nī cī na ʔ xa na tsīl la
 gūl nal la dī na gīl t'ū dī da nī dū xa na gīl la nī cī na ʔ
 gīl dīl tsī ʔ s lī ʔ tsa ga na tsū teī teī gīl t'ū
 25 ʔ gū t'i ga ʔ s lī za zī ka ka sit dīl la nī cī na ʔ
 ʔ dīl t'ū gī tsīl tsī cī djet gā dji ʔ məs ʔ līl la
 gīl dīl tsī yī ga na dīl la dī gūs t'i ga nī cī na ʔ
 məs xa gīl la gā dji ʔ gī tsəl sīl la ʔ wa nī cī na ʔ
 sit dīl la gā dji ʔ tsa na dī ʔ a nī ʔ līl la gī dī sa
 30 ʔ gū t'i ga gū nī tsīl lī ka nī dīn nīl la tsa ʔ ʔ līl la
 gī nīl tsīl yī ga gī gīl tsīl dī na tsīl la nī cī na ʔ gā dji ʔ
 nīs da sīn nī zā' ha sis sa ʔ wa ma na nis la

came back. Then I said, "To us they are coming." Anyway putting the tipi down with we hurried (?). At them we charged. Cree man his wife on horse he threw. While she ran young men came up to her then they killed her. I my brothers with her husband we killed. The man when he fell just his scalp I caught. One side of it I tore off. Twice only his back I stabbed knife with. At that time thus we did.

Then over there I went to war. Again ten only we were. Then at night ahead I went. Cree my-brother's horse had captured. When we were going to us he caught up. Cree perhaps we were he thought. Just-then in front of him we hid ourselves. There horse he tied then toward us gun with he walked. I quiver over my shoulder it was. To us he walked up just as we charged at him. Horse where he tied to he ran back. In front of them I was running. Not towards-me he could mount. The horse he letting go at me he might shoot he turned around although toward him I ran. As I was about to catch him he ran. He did not-shoot me although still I chased him. Horse which-he had captured against him somebody mounted with it he chased him. Blackfoot on it mounted. Cree toward gun did not go off. The Cree ran again. Then he-charged at him. When he was going to shoot gun did not-go off. The Cree ran again. When he caught up, when-he was going to shoot gun did not go off. Cree he-charged at him. Horse behind he jumped around. Not he could shoot. Just then horse under its neck he ran out. The Cree he shot. His hip he hit. The Blackfoot knife with he charged. To him when he ran up just then the Cree knife he pulled out. The Blackfoot ran from-him. Then the Cree ran. The Blackfoot stone which-he picked up with it he chased him. Just as he threw it he turned around again. The stone with he threw. By him when he threw he ran on the Cree. The Blackfoot sat-down. I only chased him. Then to him I caught up.

ɕil t'ən nī ɕil lī la mī zī za na xa gīs tsi k'as t'a
 lū kwī yī ga ɕil t'ən nī la t'a mīl gīs t'ū yī dū wa
 tēi tēi ta tsa tēa dī t'a nīs tsa dī da nī mīl la la ka
 ɕi gīs nik mīl da gal ɕa ga na gīs xal ɕa t'ī gī kō wa
 5 las gū la nīs k'a nīs tī

THE PERSONAL EXPERIENCE OF GRASSHOPPER

ɕas t'a gūs t'ī ge xa nī yī k'ai ye ɕis ka ka na ka gī gī ca
 dji nīs ɕi wa t'ī ge da nī ɕil lī la mīl xa yīs ts'it
 dī sis tēit t'ī gī xa gū yīs sa ɕa da nī līl la ɕi nīs t'ū
 ɕi da tēal dī ɕa ɕil lī la sī na gīs ɕin nī līl la dīs ts'it
 10 nīs t'a sis xal ɕi jate dja za nī na gīs ts'it xa nī i
 dja na da ta sī ts'a la sī nī i na ɕi ts'ī dīs tī la sī wūs
 dlit da sa dī tī kū na sī ts'ī gīs tī

la dī na līn ne ɕis tū dī yī k'ai ye na dī sis sa
 ma na nīs la tī ɕi nīs t'ū mī nin na ɕis tē ga na mī ɕīc tē'a
 15 yī gūs t'ī ga dī gī xa nī ɕi nī na la na tsī dīs l'a
 ɕi t'a na gīs djate mīl na dīs sis tsit ɕi wa t'ī ge
 ɕas t'a gūs dlat ma ga sīs la tī sīl dīs tsit ɕa t'ī ge gūs t'ī ga
 sī yī ga yī lat yīs lī ɕil lī la nīs t'a sis xal ɕis lī
 zīs gī na gīs ts'it dī nī na sīs dja sī dan na ɕi nīs k'a
 20 gō ga nī kai la xan nas tī hī nī dza ɕa ka sū gū
 xa na gīs tē'ul gūt l'is ta dī nīs dū la ɕa t'ī ga xa
 dū zīs sis gī sa ga na tsī dīs l'a

xa nī tēi ga ta sī mī zit da ɕa tēi nī sis tī nas ɕi
 mī ta na gī dīs t'īc nī dza la ka za tēū gū ga nī tēa wū'
 25 yīs ɕi wa t'ī mī tsa nī ga ɕis t'ī ga ɕīs tē'a ɕi wa t'ī ge
 nīs tī i t'a na gīs djate tēit t'ī ge ma ga na gīc ca
 ɕi wa t'ī nas ɕin ne nī dza ɕi k'a līn ne ɕil lī la t'ī gī
 xa nī mək ka na līl la ɕi wa t'ī gī sī ts'ī ts'a l'əL gū
 yīs ɕi sa ga na gī l'a dī zas gīn nī gī ɕi ɕi wa t'ī gī
 30 has sīs nī xa nī tē'as ts'it tī zīs sis gīl la na ɕa nən na
 nī tē'ō na yī ka na gū nic ɕī la mī ɕi tē'ū zī ka la ca
 ic tēi nī ɕī la

ɕi tēi yī ga xan nī na zit gū yīs ɕi dī tēi
 mī na da ɕa ka gī ɕī ca mās xa gīs ɕā mī dlāt da ma ga
 35 dī nīs tsit na ts'it dī mī tēa nīs la mī tēa kū nai gīs la
 t'ī gī gīs tsət yū wa nīl ga ha ɕī dī sī na xa nī
 ka dī dī sī ga dī da ga tēi tē'a ɕi ɕi tēūt sī ts'it da
 sīs tēūz dī gū wa nī nən nī sūt la sī mī nīs tsīl ɕat'ī ge

Arrow with his back through I shot. In quiver nine arrows all with I shot. They were gone. Not he died. He was holy. Where he sat gun his hand from I-caught hold. With it on his back I threw him. Then right off on the ground he lay.

THE PERSONAL EXPERIENCES OF GRASSHOPPER

The very first buffalo bull young men were teasing daytime. Then gun with then I ran out. I chased it. Then when I came near gun with I shot it. Its tail sticking up with, staring at me with it charged me. It threw me in the air. My senseless body only fell. The-buffalo already was dead. Me they carried home. My-leg its blood for me flowed. They carried me in.

Another time I shoot bull I chased again. When I-overtook him I shot. Its back right in I shot him down. Just then this buffalo got up. He ran again. I loaded when I ran after him. Then he stopped. By him I ran. He charged me. Just then against me he ran. Horse with he threw me in the air. Horse he killed. When I fell I got up. My gun ground in it was sticking. I tried-to pull it up then finally I pulled it up. Dirt filled it because of that I did not kill it. From me it ran away.

Buffalo were in a herd. In front of them I hid. I-looked at them. Among them I looked around when large one, the largest I saw. Then its heart exactly I shot. Then it lay down. I loaded again. Then by it I walked. Then I looked then male with then buffalo female with. Then to me one coming I saw. To me when he came what I had killed he saw. Then he said to me, "Buffalo wonderful you have killed." Than us older ones about it tell stories. Hermaphrodite is that way.

Tree under buffalo standing I saw. Tree above it I went up. Knife I took out. Middle of its back in it I stabbed. When it fell I cut it open. Its entrails I took out. Then I ate them. That way on foot we ran Buffalo we chased. Calf small I caught. My blanket

na sis 'aL ta dī sis ge sī gis La Ga nī na nīs gī nī t'ī ge
 kū ts'ī gī la t'ī gī 'a ka ts'ī gī la
 tcīs dū na t'a gū mī t'a ga na dī gī kī mī ts'ī
 t̃ag ga nī ca ta kas gīz nī l̃an nī gīs gā kū Līl la
 5 sis t'a 'a t'ī gī gīs ts̃at

na dīs sīs sa dī xa nī m̃ak ka ka na gīs l̃at 'a kī yī
 yīs t'̃an ne mī ga nīs sī mī nas ka gīs Līl dī 'īs Lī
 yī ga t̃ei ga t̃cūt 'ī wa t'ī gī 'īs Lī L'a ts'ī ta gū dīs xal
 dū na gīs ts'it 'a gū dīs ts'ūl la ga 'ī ñag gas k̃ats 'ī nī dza
 10 xa nī 'ī na ts'it mī da' tsī dī k'az gū yīs 'ī 'īs Lī 'ī
 k'a na gī ca mī tea nī xa gī t'ī la 'īs Lī 'ī ta sī tsa
 la dī sas k'a da 'īn nī tsīs ka 'a t'ī gī xa nī ts'ī
 gīs sa dī dī t'̃an ne mī ts'it da 'ī Līl la 'a la sī tan
 xa nī tī 'ī dīs d̃al 'ī wa t'ī mī ka na gī l̃at mī ta
 15 na gī dīs t'ic 'a t'ī gī gūs t'ī ga dī d̃ag ga Lī dī ts̃ō wū'
 'as t'a yīs 'ī ma ñan nīs la tī 'ī nīs t'ū na mī cīs tc'a
 'a t'ī gī ma ga sīs la 'ī t'̃an na gīs d̃j̃atc 'īs dū wū
 xa nī nīs tsin ne na zūs gī 'ī wa t'ī gī 'a kī zī sīs gin ne
 na sīs 'oL dī d̃ag ga gīs d̃la I na tū t̃cū 'ī gīs d̃la
 20 ta dīn na ts'is gū sa ga ts'in na 'a 'ī wa nīs tin nī t̃cū
 d̃j̃ū sa ga ts'in na 'a min na
 dij na 'ī sa Lī 'ī da t'ū ts'ī dī sa da Lī 'īs tsīs dī ta
 mīs da ka dī da tsī Lī ka za 'īl kai ye na ts'ī t̃ei gīl l̃al
 sī kī 'ī t̃ca na nīs t̃cūz da nī 'ī Līl la mī nī ts'ī
 25 dī sīs la min nī ts'ī t̃ei yī ga sīs tī sa 'īn nī 'aL t'al ga
 sīl dīs sit dī 'īs tcīs dī yī ka dī gī yīs tsūk dī yī ka
 na tsin nīs la dī gūs t'ī ga sa na la sī ka dī
 da na na gū dī gīs la sa ga nīs da 'ī na mī dī
 gī sīs tsū sa na dīl la dī mī nī sī dī ka dī nī cī ca
 30 mī ts'a ga 'a na L'a gī gī caL sī ka dī gūs t'ī ga mī tsī
 da k'a 'ī nīs t'ū ma ga yī gīs t'ū la mī ga na t̃cū
 ta nī cīc d̃ja dī ñas Lī na nīs t'ū dī zī sīs gī na 'īl tsī
 da t'ī ge L'ū k'a 'ī dī sīs san nī 'ī wa 'a t'ī ge
 da nī 'ī Līl la 'ī dī sīs s̃ā 'ī dī sīs s̃ā dī m̃as 'ī Līl la
 35 sīs sīs gī 'ī wa t'ī gī mī nī gī 'a kī na sī d̃lī na sī 'aL

where it lay from there I dragged it. I clubbed it. Then I cut it open. I put it on my back. My tipi I brought it back. Then they carried it in. Then they put it in a pot.

Ducks not flying, their feathers fallen off after them I went in the water. They swam ashore. Many I killed. Fire with I roasted them. Then I ate them.

When I was hunting again buffalo female I ran after. Two arrows in it stuck in. Beside it when running horse under it put its head. Then horse hips it lifted. It did not fall. Tearing sound I heard. I looked around when buffalo fell. Its horn red I saw. Horse I got off. Its intestines were sticking out. The horse died.

Once winter time there Berry river there for buffalo we went. Eagle his blanket with we went. Buffalo ran. Then after them we ran. Among them I looked around. Right there calf dog yellow like I saw. To it I ran up. I shot it. I shot it down. Then by it I ran. I loaded again. Another buffalo fat I killed. Then two which I had killed I butchered. Calf its skin for it whisky skins full to me he gave and large bottle too to me he gave for it.

Four persons we were we to shoot toward we started. Valley its edge we were sitting. One bull to us was running. My coat I put on the ground. Gun with toward its face I ran. Toward it on my belly I lay down. When it saw me it stopped. When it charged me valley its bottom when I ran down the bottom when I ran down just then it caught up to me. When it hooked at me I jumped to one side. By me it hooked. Again from it I ran. To me when it ran facing it I turned around. From it backward I walked. When it hooked me just then its head on it I shot. By it I shot. Its shoulder I smashed.⁸ I saved myself. When I shot again I killed it. It fell.

Here prairie I went to hunt. And then gun with I chased them. When I chased them knife with I killed it. And by it two we were, we butchered it. Our horses on

⁸ I shot to pieces (†).

ʔis lək ka k'a ta si ga na ts'ai yi ka ts'i ni na ni la
 ts'i ka na gi gi la kū ts'i gi la yi wa t'i gi mi gi na
 si ni ts'i da ʔis li mi ka di di ci ca mi tea di ka di
 tea siz ga tsis ka gū ts'il la di mi na mi na ʔi di tei
 5 ʔa la di na tsai di ni ha li tsa ʔi yi na kū gi dūz
 ʔi wa t'i gi sis taz di yi wūs ʔa la di yis l'ū yi wa t'i
 gū ni nā ni ma ʔa ts'e li ki za xa gi la mi tea di kat di
 li di gi ha li tsa ʔi di tan ni ts'a kū la mis teis k'a
 gū di gal gū xa gū yis t'as mi k'a di tei ta si sūz gwa gū la
 10 gū l'ū wa yi k'a tas dla kū gū da tein na ʔa ʔa gū la di
 ma ga zin na teis i xa gi tin ni ʔi na yi tas tūc
 mi zi kak k'a ʔa lin ni xa gi tsan gwa gūc ʔi di t'an ni
 ma ga na t'a hi t'i gi ʔi di di dlūj ka da ga sūL li
 t'i ge mi wūs gi t'in ni t'i gi ʔa la gis teūte kū gi cūz
 15 la di lū kwī yi ga kū gi la
 li di cas di ʔi na gū teū gū ka ci ca ʔi sis tsai ki
 ni dza kwī yi ga ma ga zin na mis ka ka na giL a
 ʔi da tei ni cūL dja t'i gi kū gis dūz mi na ga kū
 ʔas t'a ka gi nis sis ʔaz ʔa t'i gi xa na tsai gis la si tsit da
 20 min na ʔa la din nis teūz si mǝz za ʔi lil la min na da
 sin nis ka gō ga nis t'az has tin na mi zi ga din nis tsai
 sit tsit da xa na gis teūz ʔa t'i gi xa diL ga ʔa t'i gi
 ta zit tsa ha tsai giL ti gū mis ka ka gūs t'an ni xa gis la
 si ga na ka tūn di ʔi dis sis sa di xa ni ta gis lil la
 25 gūs t'i ga ʔis li siL lil la i na' kū di gi t'ats si
 siL lil la na ts'it si ga na ts'in na ts'in nis k'a kū da gi kai
 mi dlit da xa da gi k'at ʔi wa t'i ge ʔi da dji gū ci cǝk'
 na si ts'it dis til la

we loaded it. To our wives we brought it back. Women unloaded it. They brought it in. Then we ate it.

I boy I was after him I went. Its tail broad, beaver creek where it is small its hole. Its hole stick we closed. This old man hole crawled in. Then where they were asleep their legs he tied together. Then ten besides one he took out, its tail broad.

The same old man eagles pulled in. Bank top of hill circular place he cut out. On it wood close together he made it. Grass on it he put. Place to sit in when he had made wolf skin he took out. The hole he put it on. Its armpit meat sticking out he made. Eagle to it it flew. Then it pecked it back he drew it, then its legs he could see then he held them together. He pulled it in. Once nine he pulled in.

When I was walking about hole large I came to. I was listening then inside wolf its children were-making a noise. I took off my clothes then I crept in. Its eyes fire like I saw. Then I hurried out. My blanket its hole I blocked. My knife with above it on the ground I cut a hole. While lying down in its back I stuck my knife. My blanket I took out. Then while it walked out there it died its head sticking out. Its children six I took out.

My arm when it broke I was hunting. Among buffalo I was running just then horse with me hole stepped in. With me he fell. My arm bone in the ground it stuck in. Its blood flowed out. Then I lost my senses. They carried me home.

UNIVERSITY OF CALIFORNIA PUBLICATIONS
IN
AMERICAN ARCHAEOLOGY AND ETHNOLOGY

Vol. 11, No. 4, pp. 279-290

February 10, 1915

SERIAN, TEQUISTLATECAN, AND HOKAN

BY
A. L. KROEBER

Daniel Garrison Brinton many years ago affirmed a genetic connection between the Seri¹ language of Sonora, the Chontal or Tequistlatecan² idiom of Oaxaca, and the Yuman group of dialects, which Dr. R. B. Dixon and I recently united with six other Californian languages into the new Hokan family.³ Assuming the validity of Hokan as a single group, Seri and Chontal would therefore be members of it if Brinton's assertion of their relationship with Yuman is true. As his contentions have not been generally accepted, the present essay is a re-examination of the evidence.

Brinton's union of Tequistlatecan and Yuman has hardly elicited a reaction. It must be admitted that the twenty-three Chontal words available to him were not enough for very convincing effect. The unsatisfactory quality of his word parallels was also in part due to the poor material accessible to him from the Yuman group of dialects. The enormous geographical distance between the two languages was a further obstacle to acceptance of his findings. The Yuman idioms do not reach farther east than longitude 112° nor farther south than latitude 31½° in Sonora or 26° in the peninsula of Lower California. Tequistlatecan is spoken on the Pacific Coast in the vicinity of longitude 96° and latitude 16°, near the isthmus of Tehuantepec. Brinton's remarks have therefore been ignored by nearly all of his

¹ *The American Race* (1901), 110, 113, 335.

² *Ibid.*, 112, 148.

³ *Science*, n. s., xxxvii, 225, 1913; *American Anthropologist*, n. s., xv, 647-655, 1913.

colleagues and successors. Thomas and Swanton in their map of linguistic stocks of Mexico⁴ retain Chontal as an independent family under Brinton's provisional name Tequistlatecan.

Seri has provoked one discussion. In a linguistic appendix to the late W J McGee's famous monograph on the Seri, Mr. J. N. B. Hewitt has compared in detail a considerable number of Seri and Yuman stems, with consistently negative findings as to original similarity. A careful examination of this report at the time of its publication, however, left me with a strong belief that genetic relationship existed. Several American anthropologists have expressed to me the same conviction. Mr. Hewitt's conclusion seemed not unnatural in view of his affectionate friendship with Dr. McGee, who was strongly attached to the impression that the Seri were in every respect a thoroughly unique and isolated people; and also because Mr. Hewitt and Dr. Brinton were scientific antagonists in other fields. These early misgivings as to the distinctness of Seri and Yuman were fortified by the change of point of view which I underwent in the course of my recent collaboration with Dr. Dixon, which resulted in the unexpected union of Yuman with so many other languages. The geographical barrier is also wanting for the Seri. Their habitat, between parallels 28° and 30° and longitude 111° and the Gulf of California, is almost in contact with the territory of the Cocopa and directly across the narrow strait from the Cochimi, both admitted Yuman tribes.

For Tequistlatecan there is available Francisco Belmar's *Estudio de El Chontal* (Oaxaca, 1900). For Seri there is, besides the various vocabularies drawn on and cited by Mr. Hewitt, a compilation by F. Hernandez in his *Guerra del Yaqui*. These two works together provide vocabularies by or from McGee, Pinart, Loustanou, Peñafiel, Tenochio, and Bartlett. The sounds of Seri evidently gave the European ears of these hearers much trouble. A process of averaging, however, allows a probably fair reconstruction of the spoken sounds. These have been expressed in an orthography used in my rendition of the Yuman Mohave dialect. In essentials this is the alphabet used by professional American ethnologists. Certain details are explained below.

⁴ Indian Languages of Mexico and Central America, Bureau of American Ethnology, Bulletin 44, 1911.

Fortunately both Spanish and English spellings were employed by the six recorders of Seri, and they included native Frenchmen. The averages struck from their variant forms are therefore nearer the truth than if all six had been of one nationality. To represent the Yuman group of languages, Mohave was chosen because of personal familiarity.⁵ I have not heard other Yuman idioms except Diegueño, and not much of that. The attempt to combine the rendition by other workers of other Yuman dialects with the author's spelling of Mohave would have been difficult, and left many doubtful points. For that matter, just because Mohave is one dialect of many, and apparently a somewhat specialized one, any similarity between it and Chontal or Seri that may be accepted as established will only be reinforced when satisfactory comparisons with the entire Yuman group are instituted. Señor Belmar's orthography has been somewhat altered, but not materially, to conform to that used for Seri and Mohave. The comparative table of words from the three languages has been enlarged by selections of parallel forms from the Hokan languages of California other than Yuman: Esselen, Pomo, Yana, Shastan, Chimariko, and Karok.⁶

In detail the orthography needs little elucidation. Following American usage, *c* stands for sounds of the *sh*-type; *tc* therefore equals English *ch*; *x* is a surd palatal fricative, *ɮ* a surd *l*; and *θ* and *ð* are surd and sonant interdental fricatives derived in Mohave from original *s* and *y*. Chontal *ng* and *gh*, and Seri *gh*, are as written in the original sources. Mohave *ly* and *ny* are simple sounds, palatalized; and *kw* and *xw* in all the languages referred to are probably simple labializations of palatals. The apostrophe indicates the glottal stop, except after stopped consonants, of which it denotes the glottalization. Mohave *v* is bilabial: the same quality appears to attach to *f* and *v* in the other Californian Hokan languages, and may be looked for in Seri and Chontal.

⁵ Present series, *x*, 45-96, 1911.

⁶ For Esselen, see present series, *ii*, 29-80, 1904; for Pomo, S. A. Barrett, *ibid.*, *vi*, 1-332, 1908; for Chimariko, R. B. Dixon, *ibid.*, *v*, 293-380, 1910. The Shastan material is Dr. Dixon's; it covers Shasta, Achomawi, Atsugewi, and minor dialects. Yana and Karok are mainly from manuscript notes by myself; there is published material on these languages in the present series, *ix*, 1-235, 1910 (by Dr. E. Sapir), and *ix*, 273-435, 1911.

Even without discussion, this comparative table may be admitted to make the case for the relationship of Chontal and Seri to Hokan at least plausible. It is hoped that the following sound equivalences, many of which occur repeatedly, will convince even the skeptical. To save space and detail, the words adduced are not written out, but referred to by the numbers prefixed to them in the table. Unless otherwise noted, references are always in the order: Chontal, Seri, Mohave.

The correspondence $m:m:m$ is found in words number 2, 3, and 6. In 4, 21, 27, Chontal and Mohave retain m , but Seri has p , v , or nothing. Seri v :Mohave m in 29 probably belongs to the same class: a corresponding Chontal stem has not been found. The formula $f:p:m$ occurs in 9 and again in 23, and therefore is probably regular; $p:m:m$ is found only in 14. Five of these ten Mohave stems containing m have been traced in other Hokan languages: the corresponding forms all show m . The same is true of 17, $m:m:w$, m in Californian Hokan, which throws light on the origin of the rather uncommon and hitherto unexplained w of Mohave.⁷

Chontal f does not always correspond to Mohave m : 33 shows the equivalence $f:x:p$. This Chontal-Seri correspondence $f:x$ is corroborated by Seri-Mohave $f:h$ in number 15—the fricative character is retained, but the point of articulation changed. Other cases of correspondence between labials and palatals will be encountered; the dentals and alveolars seem to shift less frequently. The obvious course of a change from palatal to labial or reverse is through labialized palatals, especially if the palatal articulation is distinctly posterior. But it is not certain that the $f:x:p$ of 33 represents original $f:x:f < f:f:f$, for Esselen agrees with Mohave in this stem in showing p .

Unvarying p occurs in 5 and 7. In the former of these, p or b persists in the Californian cognates.

Mohave v occurs in seven of the stems available for comparison. In these it shows a variety of correspondences:

⁷ Present series, xi, 182, 1914.

<i>English</i>	<i>Chontal</i>
1 Water	a-ha
2 Earth	a-mats
3 Sky	e-maa
4 Leg	i-mits ¹
5 Tongue	i-paL
6 Sleep	emai
7 Hot	e-paL
8 Rain	u-kwi
9 White	(niga)-f
10 Woman	a-kano
11 Old	a-kwe
12 Salt	oghue ²
13 Sing	cow ³
14 Ash	a-pi
15 Nose	
16 Blood	a-was
17 Heart	o-m-caxu
18 House	a-huL
19 Stone	a-pik
20 Wood	eke
21 Star	camna
22 Two	o-ke
23 Three	a-fan
24 Drink	cwa
25 Fire	u-nga
26 Eye	i-piwa
27 Ear	i-emats
28 Hand	
29 Child	
30 Bone	
31 Dog	
32 Tobacco	a-me
33 Arrow	on-fants
34 Large	kweka
35 Foot	i-tungu ⁴

¹ Foot.

² Leg or foot.

³ Cloud. Identity of the stem
zkwi, rain.

⁴ Old man.

18	<i>h : k : v</i>	California : <i>w, (m)</i>
22	<i>k : k : v</i>	California : <i>x, h, k</i>
34	<i>k : k : v</i>	California : <i>b, m</i>
19	<i>p : s : v</i>	California : <i>b, f, ', -</i>
32	<i>m : p : v</i>	California : <i>w, h, hp</i>
25	<i>ng : m : v</i>	California : <i>m, p, h</i>
35	<i>ng : v</i>	
13	<i>w : v</i>	California : <i>m, n, -</i>

The remarkable correspondence *k:k:v* seems reasonably established, in spite of the fact that two of the Hokan cognates have labials and one palatals. The same may be said of Chontal *ng* as equated to Seri and Mohave *v*. This correspondence is corroborated by the occurrence of both labials and palatals in the Californian cognates. See in this connection also 32. In fact, the entire *v* group evidences the close relationship of labials and palatals throughout Hokan. Number 13 is uncertain, the Chontal *w* being only the present writer's hypothetical rendering of several variants in the original.

Other instances of Chontal *w* occur in 16, where the formula is *w : v : hw*, with consistent *x* in the Californian languages, and in 24 and 26, where none of the other tongues show a correspondence and the Chontal sound may be of parasitic or vocalic origin.

The palatal stop *k* is found less frequently in other relations than in that with *v*. Number 30 has *k* common to Seri and Mohave. Number 10 shows the formula *k:k:θ*. Mohave *θ* is from Diegueño⁸ and general Yuman *s*; in this stem other Hokan words also have dentals. The equivalence is, however, probable on account of an established *s—h—k* shift in Hokan.⁹

Chontal *kw* : Mohave *kw* occurs in 8 and 11; in the former case the equivalent is *pk* in Seri, *tc* in several Californian languages.

For *h:x:h* see 1 and 31; for *k:h:'*, 20; the Seri-Mohave correspondence *f:h* in 15 has already been mentioned. Mohave *h* is produced with some stricture;¹⁰ the difference between it and Seri *x* ("jj", "chk") is therefore probably not great.

S, with which I have included *c*, is in many cases persistent throughout Hokan: see 6, 13, 21, 24, 27. Mohave *θ* is shown

⁸ Present series, xi, 179, 1914.

⁹ Am. Anthropologist, n. s., xv, 651, 1914.

¹⁰ Present series, x, 62, 1911; xi, 179, 1914.

by its Diegueño equivalent *s* to be a recent mutation, and the occasional California variants *ts*, *tc*, *h*, are what might be anticipated in a large array of diversified dialects.

T is not very common in the stems used. The equation *s* : *t* : *t*, Californian *t*, *d*, is found in 16; *t* : *t* : *ʔ* in 35; *gh* : *t* : *θ*, Diegueño *s*, Californian *k* or *t*, in 12. The variation of the Californian languages between palatal and dental in this last word makes the Chontal-Seri-Mohave equivalence practically certain.

Two of the compared Mohave words, 2 and 31, contain the alveolar-prepalatal stop *ʈ*,¹¹ which occurs also in Diegueño. In place of this, Chontal shows *ts* in one case, Seri once *t* and once *s*. It is not impossible that *ts* and *t* may here stand for a sound similar to *ʈ*, the rendition of which has puzzled recorders in several Hokan and non-Hokan languages of California.

For laterals there is a well defined equivalence *L* : *L* : *ly* in 5, 7, 27, 28, varied only once by the apparent substitution of *ts* in Chontal. This correspondence is the more pregnant because Diegueño, and apparently the Yuman dialects in general, agree with Chontal and Seri in retaining surd *L* where specialized Mohave has acquired sonant palatalized *ly*. The Californian Hokan languages in the same stems have *l*, or its variants *r*, *n*, or *-*.

Mohave trilled *r* in 11, 13, 29 is without Chontal or Seri equivalent, except that one orthography of Seri 29 shows a final *d*, perhaps written for a sonant fricative corresponding to *r*.

The vowels of the three languages agree even more consistently than their consonants. *A* is unchanged in 1, 2, 3, 16 (twice), 18, 19, 25, 30, 31, 33. The Californian languages also show *a* in the great majority of their forms for these stems. The equivalence *a* : *-* : *a* occurs in 1, 2, 5, 6, 31. Mohave and Diegueño unaccented vowels are often very light, so as to be easily missed by an observer unfamiliar with the languages; but this hardly explains the situation in Seri, as in all of the above five cases the missing Seri vowel corresponds to the most markedly accented one in the equivalent Mohave word.

Fewer instances appear of the agreement *a* : *o* : *a*, namely, numbers 17, 27, 28, 34; but the correspondence is equally posi-

¹¹ Present series, x, 57, 1911.

tive. Seri *o* in these cases is clearly a special formation, as the Californian languages regularly show *a*. In the first three of the four words the equivalent Mohave *a* is accented. Chontal *o* and *u*, so far as comparable at all, correspond to Mohave *a*, Seri and the Californian languages showing less regular forms: 9, 10, 12, 18, 25.

Chontal has *a* where Seri and Mohave show *a*, *e*, or *i* in 3, 7, 10, 14, 24. Californian analogues vary between *a* and *i*. This appears to be an instance of assimilation in Chontal of originally distinct vowels.

Chontal *e* seems reducible to two types: *e:e:a* in 20, 29, 32, and *e:i(?) :i* in 7, 12, 22. Californian analogues are so variable that several original vowels may be involved.

Number 4 shows *i:e:e*, with which I am inclined to unite the *i:a:e* of 8, on account of the Californian equivalents *i* and *e*. More frequently, however, *i* is unchanged in the three southern languages, as in 4, 5, 26, and, for Seri and Mohave at least, in 15, 28, 30. In every instance at least some of the California dialects also show *i*, but others do not; it is worthy of note that in 5, 15, and 26 apparent metathesis of vowels occurs. In 6 the formula *i:i:i* is modified by loss of vowel in Chontal and in 19 in Seri. The lost Chontal vowel is unaccented; that of Seri corresponds, like lost Seri *a*, to an accented vowel in Mohave.

These correspondences cover fully three-fourths of all comparable vowels in the list.

The Chontal initial vowels separated in the list by a hyphen are included by Señor Belmar in a series of noun prefixes indicative of number. Thus he writes *le-maa*, sky, as if *le* were the morphological element and *maa* the noun stem. The equivalences of these "prefix" vowels with the initial vowels of the stem in the Seri and Mohave words are, however, so close that it is clear they are not part of the prefix at all. The division should be *le-maa*. In the same way, under "Other Hokan Languages" I have written *Chimariko i-pen*, *u-sot*, *i-sam*, *i-ṭa*. When Dr. Dixon studied *Chimariko* as an independent¹² language, these initial sounds seemed to be connecting vowels of the possessive prefixes of body part terms. But it is clear that here also the

¹² Present series, v, 326, note 12, 1910.

division should be h-ipen, his tongue, not hi-pen. At one time it seemed possible to Dr. Dixon¹³ and myself¹⁴ that such forms were all from monosyllabic radicals; but a comparison of Chontal ipal, Seri ipl, Mohave ipalya, Chimariko ipen, Pomo hiba, Shastan ipli, proves the initial i to be part either of the original stem or of a prefix which became definitely associated with the stem before the diverse and long separated Hokan languages became detached from one another.

Apart from correspondences of specific sounds, one general phonetic fact is clear about Hokan: fricatives, both surd and sonant, and in labial as well as in dental and palatal articulation, are exceptionally well developed. The contrast on this point is marked with Penutian, which is as bare of fricatives as it is at present the fashion to depict original Indo-European speech to have been, and with Uto-Azetaken, where stops also largely outnumber fricatives. Labial fricatives have long been noted as excessively uncommon in American languages; yet within the limits of the Hokan group *f* occurs in Chontal, Seri, Esselen, Pomo, and Karok, and *v* in Seri, Mohave, and Karok. It is not to be argued that this *f* and *v* correspond directly in the several languages or represent survivals of original *f* and *v*. In fact, the reverse is the case. Mohave *v* equates with Seri-Chontal *k* and north Hokan *m*, *w*, *b*; Chontal *f* is a development from labial stops or nasals, Seri at least sometimes from palatal fricatives. But the tendency for fricatives to appear is evidently deep-rooted in the family, and must be regarded as a significant character. This is confirmed by the fact that those languages, such as Yana and some of the Pomo dialects, which are weakest in fricatives, are the ones in which sonant stops are most pronounced. The theory of an underlying impulse toward fricatives would also explain the development of two such closely related and rare sounds as Mohave *θ* and *δ* from such unrelated ones as *s* and *y*. I feel very strongly that it is impossible to institute even slight comparisons among the Hokan languages as a group, once this impulse has been perceived, without attaining to an ineradicable conviction of their original unity.

¹³ *Am. Anthropologist*, n. s., xv, 651, 1913.

¹⁴ Present series, xi, 183, 1914.

It may be worth while to add a few general Hokan parallels for Chontal and Seri for which no direct equivalents are known in Mohave.

Night: Seri, amok; Chimariko, hime, himok-ni; Achomawi Shastan, mahektca; Esselen tumas; Pomo, duwe.

Sun: Seri, sax (moon: isax, *sic*); Esselen, asi; Chimariko, asi, day; Atsugewi Shastan, asiyi, day.

Navel: Chontal, a-tu; Shasta, edau; Achomawi Shastan, a'lu; Atsugewi Shastan, tsup'-; Chimariko, o-napu; Yana, -lak'i.

Person: Chontal, acans; Shasta, ic; Pomo, atca, teate; Chimariko, itci, man; Yana 'ihsi, man; Esselen, exi-.

I trust that this presentation will both establish the original unity of Tequistlatecan, Serian, and Yuman, and help to allay the doubts of those who may have remained unconvinced by the announcement of Dr. Dixon and myself that seven Californian languages heretofore considered distinct could be united into the one family which we denominated Hokan. No one is better aware than we of the slenderness of the evidence as yet presented in support of our assertion; but our first serious suspicions of relationship are only recent, and each further hesitating inquiry into the question has thrown open such vistas that the material has accumulated faster than we could handle it, and a delay in our promised proof has been inevitable. The present little treatise may reveal some glimpses of the possibilities before us.

There was a time when the merging of one of the accepted North American linguistic stocks into another was a rare and notable event in American anthropology, and the simultaneous wiping out of two was not heard of. That time is past. The Hokan family as here treated comprises what a few years since were regarded as nine families. That two others, Chumash and Salinan, might be includable was suggested a year ago by Dr. Dixon and myself. Since then Mr. J. P. Harrington has affirmed the genetic unity of Chumash and Yuman.¹⁵ As his studies in recent years have made him the best informed authority on both languages, his verdict must at least be taken seriously. If Chumash is Yuman, it is Hokan; and as Salinan will almost certainly

¹⁵ *American Anthropologist*, n. s., xv, 716, 1913.

go where Chumash goes, eleven¹⁶ former families are now ranged under the banner of one. The new Penutian family takes care of five other former stocks. Two are eliminated by Dr. Sapir's daring but unquestionably valid recognition of Wiyot and Yurok as Algonkin. The same investigator is also giving proof, sufficiently critical and detailed to satisfy the most pedantic, of the relationship of Shoshonean, Piman, and Nahuatlan, as first affirmed by Brinton, and accepted by the late Dr. Chamberlain and myself. Dr. Swanton has shown Natchezan to be Muskogean. His comparison of Athabaskan, Haida, and Tlingit, on a suggestion of similarity long ago made by Dr. Boas, is inconclusive, but in the light of events elsewhere forces the suspicion that a re-examination may result in a positive establishment of relationship here also. The same may be said of Dr. Boas' other demonstration of resemblance of morphological type between Salishan, Wakashan, and Chemakuan. Still other unions and inclusions will undoubtedly be made. Hokan now stretches from southern Mexico to southern Oregon. Inquiry in the complex linguistic field of the latter state and of the coast to the north may result in determinations at the very first touch.

We may accordingly be confident that the language map of North America will be thoroughly recolored in a few years. For a long period the Powell-Henshaw list of 58 stocks in Canada and the United States stood almost unaltered. The convenience of this first exhaustive and entirely definite classification was so great that it was soon looked upon as fundamental, and the incentive to tamper with it was lost. The revision of the map in the *Handbook of American Indians* in 1907 reduced the 58 stocks only to 56. With the additional families formulated in 1911 by Thomas and Swanton for Mexico and Central America, the total for the continent was 82. In a few years this has shrunk to 64, with most of the field still lying under the old ban. At a chance gathering of anthropologists in Washington a few months since, predictions were made, informally, it is true, and in part perhaps not very seriously, but with an undercurrent of conviction, as to the number of families that would be generally

¹⁶ Really twelve, as Shasta and Achomawi-Atsugewi (Palaihnihan) were long considered distinct and only recently connected by Dr. Dixon, *ibid.*, n. s., vii, 213, 1905.

recognized in ten years. The estimates ranged from 15 to 30. Surely anthropologists may begin to realize that in these matters a new order is upon them, merely through the progress of knowledge and without any abandonment of the safely conservative principles of the past.

It has been suggested to me that while there is probably some underlying truth in most of the recent mergings of stocks, the kind of relationship involved may be of a different sort from what has heretofore been regarded as the relationship binding together the members of a linguistic family. I wish to express my absolute opposition to this attitude. If Chontal and Seri are not related just as thoroughly and just as completely to Yuman and Pomo and Chimariko as Omaha is to Dakota or as Cherokee is to Iroquois or as Arapaho is to Delaware, they are not related at all, and the present essay has entirely failed of its purpose. I recognize only one criterion of relationship: reasonably demonstrable genetic unity. Either two languages can be seen to have been originally one, or they cannot be seen to have been one. The evidence may be of such kind and quantity as to leave us in doubt for a time; but there can be no such thing as half-relationship. Philosophically, the concept of the linguistic family may be of little moment or validity, like the concept of species in biology; but for the organization and practical control of knowledge both these categories are indispensable. And they can be of use only if they stand for something definite and if as categories they are inflexible.

It is to me a particular gratification that the outcome of this investigation re-establishes the findings of Brinton made by him on so much slighter evidence. Brinton was dogmatic beyond a doubt, and his attitudes seem at times inconsistent. But his work is permeated by a clear grasp and a lucidity of thought and expression; and these qualities are given their full value by a remarkable basic understanding, an instinctive feeling for phenomena of the human mind that has rarely been equaled in the field of ethnology or linguistics. On the points here discussed Brinton's material was nearly worthless; we must bear him the greater tribute for his power of intuitive sane insight and interpretation.

I should have liked to examine Brinton's further prognosis that the Waikuri language of the southern portion of Lower California was also Yuman. The available information on this idiom, however, all goes back to one very tenuous source, the picturesquely abusive and spirited description of Baegert. The few words contained in this do not look like Yuman or even Hokan; but they are too few and too specialized to allow of any very certain conclusions. Unless new records from Lower California can be discovered, a final judgment as to the position of Waikuri will not be possible until the comparative analysis of the Hokan languages has progressed so far that they can be successfully measured against the fragments of this obscure tongue. Pending this decision, Waikuri must be regarded as of unproved affinities and therefore held tentatively distinct.

Transmitted October 21, 1914.

UNIVERSITY OF CALIFORNIA PUBLICATIONS
IN
AMERICAN ARCHAEOLOGY AND ETHNOLOGY

Vol. 11, No. 5, pp. 291-296

February 1, 1916

DICHOTOMOUS SOCIAL ORGANIZATION IN
SOUTH CENTRAL CALIFORNIA

BY
EDWARD WINSLOW GIFFORD

Since 1913 the writer has been engaged in a study of the social organization of the Indians of South Central California. The first product of this study, a report on the exogamous moieties of the Central Sierra Miwok, is now in press. Following the completion of this work, the writer set out to make a preliminary investigation of other tribes to determine the geographic limits of the moiety organization. This preliminary survey, which is to be followed by careful study of each group, has not been entirely completed to date. The following brief statements summarize the data obtained, especially with reference to tribes, which, like the Miwok, are organized on the basis of dual divisions.

The survey so far shows that the area in which moieties exist extends from Amador County in the north to Kings County in the south. In the southern counties the area extends from the eastern foothills of the Coast Range on the west to the high Sierra Nevada on the east, thus embracing both plains and mountain tribes. In the north moieties have been found only in the Sierra Nevada.

Aside from the Miwok, the tribes which have been visited are the Chukchansi, the Gashowu, and the Tachi of Yokuts stock; and the North Fork Mono, the Inyo Mono, the Bridgeport Mono, the Tübatulabal, and the Kawaiisu of Shoshonean stock. Of these the Chukchansi live in Madera County north of the

San Joaquin River, the Gashowu in Fresno County south of the San Joaquin River, and the Tachi in Kings County north of Tulare Lake. Of the Shoshoneans, the North Fork Mono live in Madera County north of the San Joaquin River, adjoining the Chukchansi, but higher in the mountains and more to the east. The Inyo Mono inhabit Owens Valley, Inyo County, east of the Sierra Nevada. The Bridgeport Mono dwell in the vicinity of Bridgeport in Mono County, also east of the Sierra Nevada. The Tübatulabal occupy the Kern River region, and the Kawaiisu, who speak a dialect of Ute-Chemehuevi, inhabit the Tehachapi Mountains.

The principal facts concerning social organization among the tribes, where positive data were obtained, are as follows:

The tribes exhibiting a moiety organization are the Chukchansi, the Gashowu, and the Tachi. The North Fork Mono have, instead of indivisible moieties, two phratries composed of two clans each. The other tribes appear to have no moiety organization.

Personal names among all of the groups, with the exception of the Bridgeport Mono and possibly the Kawaiisu, are usually meaningless; at least the Indians can give no interpretations for them. Furthermore, names are transmitted, except perhaps among the Chukchansi, a child usually being named after either a living or a dead relative of the father. Frequently when an individual is named after a living relative the name is changed upon the death of the namesake. Miwok names invariably have very full meanings and are not transmitted. A majority of the Bridgeport Mono names also have meanings.

The kinship systems of the three Yokuts tribes (Chukchansi, Gashowu, and Tachi) resemble closely in application the Miwok system, which is described in detail in the forthcoming paper on Miwok moieties. The characteristic features are, first, the possession of but one term for grandchild, one for grandfather, and one for grandmother; second, the grouping of cross-cousins in two generations, one older and one younger than that of the speaker. On the other hand, the kinship system of the North Fork Mono on the western slope of the Sierra Nevada is quite unlike the Miwok and Yokuts systems. It is almost identical

with that of the Inyo Mono and the Bridgeport Mono, who live east of the Sierra Nevada. These systems are characterized by a distinct term for each of the four grandparents; furthermore, the same term is applied by the grandparent to the grandchild. Cross-cousins are classified as brothers and sisters, hence in the generation of the speaker.

The names of the moieties among the Miwok are *kikua*, or water moiety, and *tunuka*, or land moiety. The three Yokuts tribes (*Chukchansi*, *Gashowu*, and *Tachi*) examined employ the names *nutuwic* (also given as *nutuwuts*) and *toxelyuwic* for their moieties. Like the Miwok moieties, the Yokuts moieties are exogamous. A child belongs to the moiety of the father. Among the North Fork Mono also descent is paternal, but there is no rule of exogamy. A child belongs to the clan and to the phratry of the father, and may marry within his own clan or not, as he chooses.

The names of the two phratries of the North Fork Mono are *pakwihu* and *yayantci*. The *pakwihu* phratry is subdivided into two clans, *tübahinagatu* and *puzaots*. The *yayantci* phratry is composed of the two clans *dakats* and *kunugetci*.

The arbitrary division of nature into two categories, "land" and "water", is a feature of the Central Sierra Miwok moiety complex. The land side of nature is associated with the land moiety, the water side of nature with the water moiety. The water moiety (*kikua*) of the Miwok finds its analogue in the *nutuwic* or *nutuwuts* moiety of the three Yokuts tribes mentioned, and the Miwok land moiety (*tunuka*) finds its analogue in the *toxelyuwic* moiety of the Yokuts tribes. Among the Yokuts tribes certain animals are associated with each moiety, but it has not been ascertained that the whole of nature is divided and associated with the moieties as among the Miwok. In the Miwok organization the connection between moiety and animal is through the personal name, each individual being named after an animate or inanimate object. The eponym, however, is not transmitted to the descendant as a rule. Among the Yokuts tribes and the North Fork Mono, where personal names are meaningless, the connection between animal and moiety or phratry is naturally not through the personal name.

Each individual in these tribes has a "pet" or "personal totem," which is inherited from the father, and seems to have no connection with the personal name.

Among the Chukchansi the following animals are associated with the nutuwic moiety: coyote, turkey vulture, falcon, and quail. With the toxelyuwic moiety are identified the following animals: bear, eagle, raven, crow, jay, and jackrabbit. The Gashowu classify the following animals as connected with the nutuwuts moiety: coyote, turkey vulture, and hawk (species?). With the toxelyuwic moiety the following animals are connected: eagle, wildcat, and fox. Among the Tachi the largest list of moiety animals was obtained. For the nutuwuts moiety the animals are coyote, prairie falcon, ground owl, great horned owl, skunk, seal, and several other species of hawks and owls. The animals of the toxelyuwic moiety are eagle, crow, roadrunner, killdeer, fishhawk, raven, antelope, and beaver. Among the North Fork Mono matters are not so sharply defined. The privilege of changing one's phratry and the custom of capturing young birds, which are kept as real pets, have added to the complexity, so that an animal is associated sometimes with a member of one phratry, sometimes with a member of the other.

The North Fork Mono clans appear to be functionless. Ceremonial functions seem to be centered in the phratries, just as similar functions are in the Miwok and Yokuts moieties. Among the Miwok, the Yokuts, and the North Fork Mono, reciprocity on the part of the dual divisions in funeral and mourning ceremonies is the rule, and when games are played one division opposes the other. Among the Yokuts tribes an eagle ceremony, which is a moiety affair, was held. There seems reason to believe that similar ceremonies were perhaps held for other moiety animals. The ceremony was in the nature of a purchase or redemption of a moiety animal from the opposite moiety.

Ceremonial paints distinctive of each moiety were used by the Yokuts tribes and the Southern Sierra Miwok, but have not so far been found among the North Fork Mono.

Dual chieftainship, that is, a chief for each moiety or phratry, was found among the Tachi Yokuts and the North Fork Mono.

Doubtless other tribes will prove to have a similar division of the chieftainship.

An organization, which will perhaps prove to be on a moiety basis, is reported by Dr. J. Alden Mason among the Salinan Indians of Monterey County. A bear and a deer "totem" are mentioned.¹ Among the Central Sierra Miwok the bear is the chief animal of the land moiety, the deer of the water moiety. It seems quite probable that a continuation of Dr. Mason's investigations among the Salinan will show that the bear and deer "totems" really stand for moieties, which may prove to be similar to those of the Tachi Yokuts, who were the closest neighbors of the Salinan on the east.

Mr. J. P. Harrington for some time past has been investigating the Chumash of the Santa Barbara region. The details of Chumash social organization will perhaps prove to be quite similar to those of the Yokuts tribes, mentioned in the present paper, who lived to the northeast of the Chumash region.

The next task is to extend the survey to the Washo and the Southern Maidu in the north and, if results among these stocks warrant it, also to the Southern Wintun. The examination of the Lake Miwok will perhaps prove instructive as to the origin of the moiety institution among the Sierra Miwok. The remnants of the Plains Miwok and of the Costanoan stock have so far yielded no positive results as to a clan or moiety organization. There are still other informants to be examined, however. In the south the Mono living on the western slope of the Sierra Nevada south of the San Joaquin River have yet to be visited, as have also the other Yokuts tribes not already mentioned. Information obtained from the Tachi Yokuts indicates that at least the following Yokuts tribes inhabiting the San Joaquin Valley probably had an organization akin to that of the Tachi: Chunut, Nutunutu, Telamni, Wechikhit, and Wowol.

The elucidation of the relations between the type of social organization found in South Central California and the type of organization found among the Luiseño, the Mohave, and the Pima, all tribes possessing clans, is one of the ultimate aims of

¹ The Ethnology of the Salinan Indians, Univ. Calif. Publ. Am. Arch. Ethn., x, 189, 1912.

the survey. Another equally important matter, to be clearly established, is the interrelations within the South Central California area itself. Although it is still too early to make a positive statement, yet it seems that the Miwok organization, judging from its simpler character, as compared with the Tachi, lies on the periphery of the moiety area, not only geographically, but also in point of complexity. A consideration of the North Fork Mono complex conveys a similar impression. The absence of exogamy and the presence of a kinship system totally unlike that of the other groups having a dual organization seem to warrant the conclusion that the ceremonial features of the Yokuts and Miwok moieties have been borrowed, while the two social features, exogamy and kinship system, have not. It is therefore not unlikely that, in South Central California, the dichotomous social organization was primarily a valley institution, which spread to the mountains.

Transmitted January 29, 1916.

UNIVERSITY OF CALIFORNIA PUBLICATIONS
IN
AMERICAN ARCHAEOLOGY AND ETHNOLOGY

Vol. 11, No. 6, pp. 297-398

March 8, 1916

THE DELINEATION OF THE DAY-SIGNS IN
THE AZTEC MANUSCRIPTS

BY
T. T. WATERMAN

CONTENTS

	PAGE
Introduction	298
The Manuscripts	299
The Aztec Calendar System	300
The Time-periods	300
Method of Determining the Time-periods	302
System of Dating	303
The Twenty Day-symbols	304
The Numerals	308
The Method of Writing Dates	309
The <i>Tonalamatl</i> , or Book of Indexes	310
The Book of Indexes Applied to the Time-periods	311
Corrections of the Calendar	316
Origin of the Calendar System	321
The Reason for Twenty as a Factor	322
The Reason for Thirteen as a Factor	323
Derivation of the Calendar Symbols	327
Probable Line of Evolution	327
The Delineation of the Calendar Symbols in the Manuscripts	328
The Twenty Day-signs; their Characteristics and Variations.....	332
Water-monster (<i>Cipactli</i>)	334
Wind (<i>Ehecatl</i>)	337
House (<i>Calli</i>)	342
Lizard (<i>Cuetspalin</i>)	343
Snake (<i>Coatl</i>)	346
Death (<i>Miquistli</i>)	347
Deer (<i>Mazatl</i>)	351
Rabbit (<i>Tochtli</i>)	353
Water (<i>Atl</i>)	357
Dog (<i>Itscuintli</i>)	360
Monkey (<i>Ozomatli</i>)	362

Grass (<i>Malinalli</i>)	364
Cane (<i>Acatl</i>)	368
Ocelot (<i>Ocelotl</i>)	370
Eagle (<i>Quauhtli</i>)	374
King-vulture (<i>Coscaquauhtli</i>)	376
Motion (<i>Olin</i>)	377
Flint (<i>Teopatl</i>)	382
Rain (<i>Quiahuatl</i>)	385
Flower (<i>Xochitl</i>)	390
Borrowing of Characteristics	392
Conclusion	393
Bibliography	394

INTRODUCTION

A very noteworthy achievement of the ancient Aztecs was their peculiar calendar system. Even the Aztecs themselves seem to have looked upon this calendar as the central fact of their lives. It was not only of importance from a practical point of view, but it filled a very large place in the ceremonial life of the people. Thus "calendar" had a meaning for them which the word quite fails to carry for us. While their calendar system was in a sense peculiar, its peculiarity lay chiefly in one or two unusual features. In many ways the system was after all not unlike our own. This does not, of course, mean that the two systems, theirs and ours, had any historical connection. The development of the Aztec calendar was undoubtedly independent of any influence from the Old World. I am inclined to think that the Aztec system is not so mysterious, and the history of its development not nearly so abstruse, as the many commentaries written on it would lead us to suppose.

It is a well-established fact that the particular system identified with the Aztecs of Mexico was merely an outgrowth, a sort of special form, of one fundamental calendar concept which had a very wide vogue in Middle America. This system is undoubtedly more ancient, for example, in Honduras, than it is in the Mexican plateau. The Aztecs merely developed their own special nomenclature for the various elements of this calendar, and evolved certain special symbols. The system in its broad outlines is very much older than the Aztec civilization proper.

THE MANUSCRIPTS

Calendar symbols of one sort or another occur on a surprising variety of monuments, both of early and late periods. The most important of these monuments for the study of the workings of the calendar system in detail are certain remarkable picture-books or manuscripts, made on folded strips of deerskin, or on paper made of the fibre of the maguey (*Agave americana*). These manuscripts are usually spoken of as "codices." Only a few of these native manuscripts survived the introduction of European civilization into America. Those which were preserved were taken to Europe as curiosities, and often preserved through mere luck. The ones still extant have received a great deal of attention since the early part of the last century. All but a few of the originals are still in Europe, and are at the present time considered priceless.

The earliest effort at publishing or reproducing them on a large scale is a work by Lord Kingsborough, in nine magnificent volumes, called *Mexican Antiquities*.¹ The arrangement of the material in this work betrays almost complete ignorance of the composition of the original manuscripts; and more than that, the work of reproduction itself is, in a great many particulars, inexact. The nine volumes, however, imperfect as they are, have been the foundation of a great deal of later study. The American scholar Cyrus Thomas,² has written several papers on Aztec matters which are based largely on Kingsborough's work. The same might be said of at least one well-known monograph written by the Mexican archaeologist Antonio Peñafiel.³ Reproductions very similar to Kingsborough's in general type, but rather better in details of execution, have been published from time to time in Mexico. Thus Peñafiel's enormous work (noteworthy at least in size and weight), called *Monumentos del arte mexicano antiguo*,⁴ contains two Aztec manuscripts, namely, the "Book of Tributes," and the "Zapotec Codex," both reproduced in fac-

¹ For full titles of all works referred to, see bibliography at end of essay.

² See his "Numeral Systems of Mexico and Central America," 1893.

³ *Nombres geográficos*, 1885.

⁴ Berlin, 1890, two volumes of plates and one of text.

simile, including color. A more recent work, edited by Chavero, *Antigüedades mexicanas*,⁵ contains several pictographic texts in color. Since the year 1883 there have become available, due principally to the Duke of Loubat, a number of very beautiful facsimiles of ancient texts, which reproduce, in every respect, the original picture manuscripts. A list of the facsimile texts on which the present study is based will be found in the bibliography below. A few "codices" like the Codex Borbonicus, edited by Hamy, have not been used in the present study simply because copies were not locally available. Moreover, those manuscripts are most interesting which seem to be purely Aztec, or which show few traces of Spanish influence. Hence such sources have been most emphasized in the following pages.

THE AZTEC CALENDAR SYSTEM

THE TIME-PERIODS

It seems necessary to begin a discussion of the treatment of the calendar in the manuscripts by pointing out the most essential features of the calendar system itself. That will accordingly be our first concern. A good deal of uncertainty has always existed concerning some of the details of the ancient Aztec calendar. Discussion about certain points began only a few years after the Conquest. Bernardino de Sahagun, for example, whose *Historia general de las cosas de Nueva España*⁶ is perhaps the most valuable literary source for the study of conditions among the Aztecs, was already involved in the year 1539 in an acrimonious dispute with another monk concerning the question of whether or not there were "corrections" or "intercalations" in the Aztec system. Other features of the system have always been surrounded with mystery. Certain facts, on the other hand, are quite clear and have never been the subject of dispute. Prominent among them is the fact, which must never be lost sight of, that the basis of everything calendrical was the solar year of 365 days, representing (though the Aztecs,

⁵ Mexico, 1892, one volume of plates and one of text.

⁶ See bibliography.

of course, never dreamed of the celestial mechanics involved) approximately the period of the earth's revolution about the sun. This is the starting-point and basis for all the other features of their calendar.

Their calendrical computations seem, to be sure, to reflect knowledge of other periods, based not on the sun but on the stars. Seler,⁷ and Förstemann⁸ have said a great deal about a so-called "Venus year," a period of 584 days based on the movements of the second planet of our system. Seler has also discovered what seem to his own mind traces of a period based on the revolution of Mercury. It may readily be assumed that the Aztecs had considerable knowledge of the stars, and the recognition of star-periods is by no means impossible. It is a very notable fact in this connection that the ancient peoples of Mexico paid little regard to the most conspicuous body in the heavens, aside from the sun, namely the moon. This is especially interesting because the moon's phases are employed almost the world over, as marking off convenient periods of time. An important work of the middle seventeenth century, the *Manual de los ministros de las Indias*, by a Jesuit, Jacinto de la Serna,⁹ states that certain month-periods were actually reckoned by the Aztecs, beginning with each new moon. These are said to have been used by women, especially in connection with the period of pregnancy. Periods based on the moon, however, do not appear in the manuscripts, and even moon symbols are noticeably infrequent.¹⁰

There was recognized in ancient Mexico, in addition to the year mentioned above, a period of twenty days, a *cempoalli*, employed as a subdivision of the year-period. Such twenty-day units were regularly employed in speaking of a lapse of time of less than a year's duration. Eighteen of these *cempoallis*, or twenty-day periods, with a group of five special days added at the end, made up the regular year of 365 days. The five days thus added to the eighteen "twenties" are the often-mentioned *nemontemi* referred to in every account of the Aztec calendar.

⁷ 1898.

⁸ 1893.

⁹ Published in 1899. See bibliography.

¹⁰ See Cyrus Thomas, 1897, p. 954.

Many of the statements made concerning these *nemontemi* by the older authors lead to confusion. The five days in question were considered unlucky, and the Aztec refrained, as far as possible, from all activity during the period. Considered collectively, they had no name, though each of the preceding eighteen periods had one. It is often said, therefore, that they "were not counted." Seler has shown¹¹ that this means that they were "of no account," since all activities were, as far as practicable, suspended until the five-day period was safely over. We know for a fact that the separate *nemontemi* days were duly reckoned in their regular places in all calendrical computations. The consensus of modern opinion is that they are not to be looked upon as intercalations or corrections. The Aztecs, then, in referring to the passage of time, employed (1) a period of 365 days, broken up into (2) subdivisions or *cempoallis* of twenty days each, each subdivision having a name. Besides the *cempoallis* there was a nameless five-day period. Such twenty-day periods are often called months. It is, I think, worthy of some reiteration that our English word "month" is philologically based on the word *moon*, just as, from the practical point of view, the month-period is approximately one "moon" of $29\frac{1}{2}$ days. Obviously, therefore, the word *month* cannot be appropriately applied to these twenty-day Aztec periods.¹² Our best resource is to fall back, in mentioning these subdivision of the Aztec year, on the native word *cempoalli*, which means simply a "period of twenty." They were not of prime importance in calendrical computations.

METHOD OF DETERMINING THE TIME-PERIODS

A point to be re-emphasized is that the one fundamental element at the bottom of the Aztec calendar system is the 365-day solar year.

The question which next arises is: how did the Aztecs come to note so exactly the periods of revolution of certain of the heavenly bodies such as the sun, and perhaps of some of the planets? It seems that they had a simple but rather effective

¹¹ 1891.

¹² Seler, 1900-1901, p. 5, makes this point.

method of making observations. Mrs. Nuttall in the Boas Anniversary Volume refers to a picture showing how celestial movements were registered. A priest, to describe it briefly, sits inside a temple door and notes, with the aid of a notch on the lintel, the position of the rising or setting of a planet. The planet rises, of course, in a slightly different place day after day. By observing the rising of this planet until it got back to its original point, he could determine its "period." Probably the approximate length of the solar year was established in this way—by noting the variation of the point of sunrise, day by day, until the return of a summer or winter solstice marked the completion of a given period. The priest could meanwhile keep a tally of days by notching a stick, or in some other way. Apparatus for making more exact observations than this certainly never existed among the ancient Mexican peoples. The general situation as regards astronomy and their attitude towards it is brought out in a rather interesting way in an address reported to have been delivered to Montezuma on the occasion of his assumption of the office of principal war-chief. This exhortation is chronicled by Tezozomoc,¹³ and is referred to by Seler.¹⁴ The war-chief is urged "to rise at midnight and look at the stars; toward morning he must carefully observe the constellation Xonecuilli, St. Jacob's Cross; and he must carefully observe the morning star." Sahagun also, in the seventh book of *Historia general* gives an elaborate account of Aztec astronomy. They had therefore enough knowledge to realize the importance of the heavenly bodies for recording the passage of time. It seems quite natural that their time-periods should have a basis in the movements of certain celestial bodies.

SYSTEM OF DATING

The Aztecs seem to have recognized, then, a number of time-periods, the most important of which is the solar year. Now comes the question of how they wrote down dates.

Perhaps the simplest way of understanding the Aztec system of indicating dates within the year is to recall the salient fea-

¹³ *Crónica mexicana*, chapter 82; see Kingsborough, 1831, vol. 9.

¹⁴ 1898, p. 346.

tures of our own system. We recognize, first of all, our year of 365 days (disregarding for the moment leap-year and other "corrections"). We divide this year up into twelve unequal periods. These periods were, in the youth of our calendar, much more uniform than they are at present. A number of perfectly trifling considerations have from time to time been allowed to alter the length of certain months. Within each of our months the days are numbered in order, beginning with 1. We identify days, then, by using twelve *names*, each name in combination with twenty-eight, twenty-nine, thirty, or thirty-one numerals as the case may be. Considered from this point of view, our system offers many points of resemblance to the Aztec. The latter, however, employed not twelve but *twenty* names, and used each of these names in combination with *thirteen numerals*. They did not utilize the "months" or *cmempoallis* for writing dates. It is best perhaps at this point to have these day-names used in dating and their symbols clearly in mind.

The Twenty Day-symbols

The Aztec words which were used as day-names are all names of actual animals, objects, or phenomena. In writing or recording these words the Aztec made use of pictures. This gives us a series of twenty "day-symbols," which are of fundamental importance in all calendar reckonings. It is very much as though we ourselves used our present names for the twelve divisions of the year, but represented them by pictures—perhaps a picture of *Janus* for the month of January, of *Mars* for March, and so on. The twenty day-names of the Aztecs, in the order in which they usually appear, are given in the following list. In this list the English equivalent of the Aztec word is given first, with the native term following it. The orthography used is that adopted by the Spanish on their first contact with the Aztecs, since that orthography has become classical, and is now a fixed tradition among Americanists. The pronunciation of the Aztec words here written is practically that of modern Spanish, except that *x* has the value of English *sh*, and *z* that of English *ts*. The double-*l* has more nearly the value of the symbol as used in English than in Spanish.

THE AZTEC DAY-NAMES

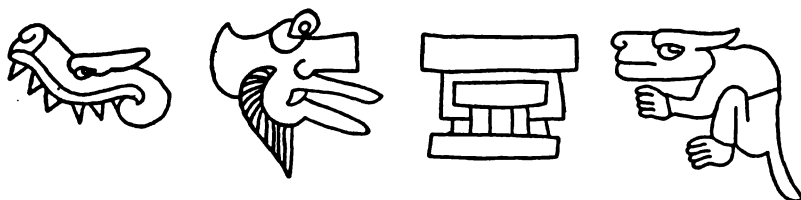
Water-monster	<i>Cipactli</i>
Wind	<i>Ehecatl</i>
House	<i>Calli</i>
Lizard	<i>Cuetspalin</i>
Snake	<i>Coatl</i>
Death	<i>Miquistli</i>
Deer	<i>Masatl</i>
Rabbit	<i>Tochtli</i>
Water	<i>Atl</i>
Dog	<i>Itscuintli</i>
Monkey	<i>Osomatli</i>
Grass	<i>Malinalli</i>
Cane	<i>Acatl</i>
Ocelot ("Tiger")	<i>Ocelotl</i>
Eagle	<i>Quauhtli</i>
King-vulture	<i>Coscaquauhtli</i>
Motion	<i>Olin</i>
Flint	<i>Tecpatl</i>
Rain	<i>Quiahuitl</i>
Flower	<i>Xochitl</i>

The graphic symbols corresponding to these names will be found in figure 1. The name of the sign is in each case written under it in English, with the original Aztec word in italics. The drawings used in this figure are taken from various Aztec manuscripts, as follows:

a, Nuttall (Zouche), ¹⁵ p. 46	k, Nuttall (Zouche), p. 72
b, Nuttall (Zouche), p. 83	l, Nuttall (Zouche), p. 48
c, Nuttall (Zouche), p. 47	m, Nuttall (Zouche), p. 46
d, Nuttall (Zouche), p. 42	n, Nuttall (Zouche), p. 72
e, Nuttall (Zouche), p. 44	o, Nuttall (Zouche), p. 1
f, Nuttall (Zouche), p. 48	p, Nuttall (Zouche), p. 54
g, Vatican B, p. 66	q, Nuttall (Zouche), p. 47
h, Nuttall (Zouche), p. 57	r, Vatican B, p. 50
i, Fejervary, p. 28	s, Nuttall (Zouche), p. 39
j, Nuttall (Zouche), p. 72	t, Nuttall (Zouche), p. 47

The effort has been made in this figure to exhibit a typical form of each of the signs. The drawing has been selected in each case, out of the large number available, as being perhaps the most characteristic form and the one most frequently encountered. Many of the graphic symbols in this figure are, as regards their meaning, self-explanatory. The symbols for House, Lizard,

¹⁵ For the citations, consult the list of manuscripts in the first part of the bibliography.



a
Water-monster
Cipactli

b
Wind
Ehecatl

c
House
Calli

d
Lizard
Cuetspalin



e
Snake
Coatl



f
Death
Miquistli



g
Deer
Mazatl



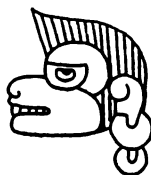
h
Rabbit
Tochtli



i
Water
Atl



j
Dog
Itscuintli



k
Monkey
Osomatli



l
Grass
Malinalli



m
Cane
Acatl



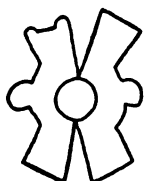
n
Tiger
Ocelotl



o
Eagle
Quauhtli



p
King-vulture
Coscaquauhli



q
Motion
Olin



r
Flint
Tecpatl



s
Rain
Quiahuitl



t
Flower
Xochitl

Fig. 1.—The Twenty Day-signs, Typical Forms

Snake, Deer, Rabbit, Water, Dog, Monkey, Ocelot, Eagle, Vulture, and Flower (*c, d, e, g, h, i, j, k, n, o, p, and t*, in the figure) are fairly realistic pictures in each case of the thing itself. The remainder are more or less puzzling. The first drawing (*a*) represents a head, probably that of the "cayman," either the alligator or the crocodile. Both animals are very common along the southern borders of the Gulf of Mexico. The second symbol in the figure (*b*), standing for the idea "wind" is a representation of the wind-god Quetzal-coatl, or "Feathered Serpent." In this drawing he is shown, as is often the case, in human form. The long beak shown in the figure is thought by some students to be connected in some way with the idea of blowing. The sixth sign (*f*), called "Death," is very appropriately drawn as a human skull. The twelfth sign (*l*), "Grass," possesses, as it is usually drawn, at least one curious feature. Underneath a very realistic representation of a bunch of grass, with a seed stalk in the center, there appears a human jawbone. The next symbol in the list, "cane" (*m*), is a representation of the cane shaft of an arrow or javelin, probably the latter. The appendages on this "cane" figure apparently represent the feathering and ornamentation of the missile. The cane-plant itself seems never to occur as a day-sign. The idea is always represented by the cane shaft. The seventeenth sign (*q*) is very much of a puzzle. It represents the idea "motion"; but why motion should be symbolized in this particular way seems impossible to say. Seler¹⁶ does, to be sure, advance the notion that it represents, in one place, the sun between the sky and the earth (see p. —, below). For all the certain knowledge we have, it must be considered an arbitrary symbol. The eighteenth symbol (*r*) stands for the word "flint." It is quite a realistic picture of a double-pointed flint knife of the type found in use among nearly all uncivilized peoples. The design at the middle of the edge of this knife is the remnant of a picture of a human face.¹⁷ The nineteenth symbol, Rain, represents the face of the rain-god (see page 385, below). More specific comment on the forms of these symbols will be found in another part of this paper.

¹⁶ 1900-1901, p. 14.

¹⁷ See figure 35, below.

The Numerals

The second principal factor in the calendar system is a series of thirteen numerals. There are a number of interesting opinions as to why the list of numerals should have been limited to thirteen. Some of these opinions are noticed and compared in another section of the present paper. The mere writing of these numerals is a very simple matter. The value is indicated in every case by a series of dots. Very little system is apparent in the placing of these dots. They seem to be placed around the day-sign according to the taste of the artist, in the position which gives the best artistic effect, or where there is convenient space (fig. 2). Other ways of indicating number than the rather

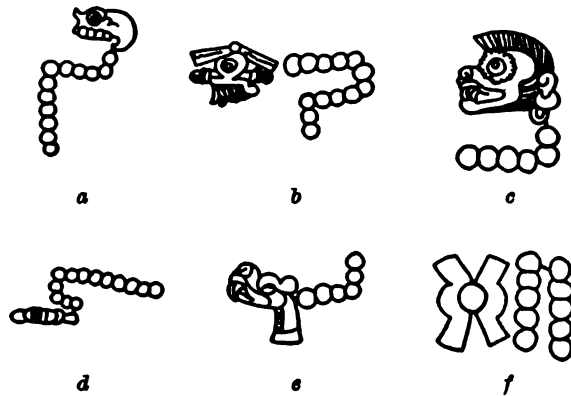


Fig. 2.—The Method of Writing Calendar Numerals

a, The day 12 Death (Nuttall (Zouche), p. 76); b, 13 Rain (Nuttall (Zouche), p. 46); c, 6 Monkey (Nuttall (Zouche), p. 44); d, 13 Cane (Nuttall (Zouche), p. 44); e, 6 Snake (Nuttall (Zouche), p. 44); f, Motion (Peñafiel, 1890, vol. 2, p. 288).

awkward method of writing down dots, were perfectly well known to the Aztecs.¹⁸ In the "Book of Tributes" and other places where considerable quantities of commodities are to be enumerated, a number of devices are used. Thus "twenty" is represented by a picture of a *pantli*, or battle-flag. A picture apparently representing a feather stands for the quantity "two hundred." There are other symbols for larger quantities. In

¹⁸ See Cyrus Thomas, 1897, pp. 945-948.

the Bologne Codex, "five" is indicated by a straight line, and ten by two parallel lines. Such short-cuts were not customarily applied to the writing of dates. We have in the two principal factors just discussed, then, the raw materials on which the whole writing-out of the calendar was founded: (1) a set of twenty symbols or "day-signs," used with (2) a set of thirteen numerals, indicated by dots.

The Method of Writing Dates

At this point there appears one of the curious features of the Aztec system, to the existence of which reference was made above. The Aztecs, in writing a series of consecutive dates, changed for every date in the series both the day-sign and the numeral. Moreover, as soon as they came to the end of either list, they at once began at the beginning, regardless of how far along they were in the other list. Certain remarkable results follow from this, as will be apparent when it is remembered that the list of numerals was very much shorter than the list of day-signs. Suppose the Aztec were writing our dates according to his own system. He would represent January first by a name and a numeral. For the next day, however, he would have written, not *January-two*, but *February-two*. Thus, he uses throughout the symbols and numerals in double progression. The twelfth day of our year, according to the Aztec system, would have been written *December-twelve*, and the thirteenth, *January-thirteen*. The fourteenth would, assuming that our names were to be used in the Aztec fashion, however be *February-one*. February would be the "sign," following January, and the given date would take the numeral "one" because after the thirteenth numeral has been used, it is necessary to begin again with the first. A good many different illustrations of the Aztec system have been brought forward from time to time.¹⁹ As a matter of fact, there is nothing complicated about it, though it would be the last thing probably to suggest itself if one of us were inventing a calendar system. Its difficulty is entirely due to the fact that it is utterly different

¹⁹ See Tylor, 1863, p. 239. Seler supplies complete tables of the dates written out in the order in which they occur (1891, p. 1).

from what we happen to do ourselves. No reason for the Aztec custom in regard to the numerals has so far been advanced.

The Tonalamatl, or "Book of Indexes"

Every day in the Aztec calendar, then, had what might be called an index, consisting of a symbol used in conjunction with a numeral. The twenty day-signs, every one of which could be written with one of the thirteen numerals, make up a series of 20×13 , or two hundred and sixty indexes, all told. This series of compound terms for dates was known to the Aztecs as the *tonalamatl*, literally "Book of Days." It has become customary to use the native term *tonalamatl* in speaking of the series, since the Aztec word has no exact equivalent in any of the European tongues. This "Book of Indexes" is really the one important achievement of the Aztec and all related calendar systems. All the other features of the system (and many of them are both curious and interesting) really follow in a perfectly mechanical way from the application of these 260 day indexes, which is all the Aztec had or could supply, to the solar year of 365 days. The solar year is, in a sense, a "discovery," since it is based on the actual revolution of the earth about the sun, but the *tonalamatl* of 260 signs is apparently an artificial device. One point demands decided emphasis in this connection. The 260 date symbols mentioned above do not correspond to any period used in recording the passage of time. The time-periods are (first) the year, and (second) its subdivisions, the "twenties." One of the many things that make the literature on the Aztec calendar hard to follow is the habit which authors have of recognizing the point just emphasized, that the *tonalamatl* is not a time-period, but meanwhile referring to it in a loose and inconsistent way.²⁰ The *tonalamatl* represents merely the number of indexes or labels that the Aztec had at his disposal in writing dates. It is precisely from this fact—that the *tonalamatl* was not a period for reckoning time—that the most typical features of the calendar system follow.

²⁰ For example, Seler, 1901, p. 16, or Nuttall, 1904, p. 494.

The "Book of Indexes" Applied to the Time-periods

Let us suppose, for example, that we are at the beginning of an Aztec year. The dates, according to the Aztec custom, are to run in one continuous series. The division into months is of no significance as far as the writing of dates is concerned. The *tonalamatl* of 260 symbols, as a little reflection will show, reaches only two-thirds of the way through the year. At the end of 260 days we begin to use the *tonalamatl* over again. There is no help for this, as there are no additional indexes for dates beyond the 260th, on which the Aztec could draw. Certain indexes will occur twice, then, in any given year. The 261st date in each year, to go no further, will be exactly the same as the first. If the Aztec wanted to distinguish between the two, he had to adopt some indirect method.²¹ If we began a year, then, with the beginning of the *tonalamatl*, at the end of that year we would find ourselves well embarked on our second voyage through the *tonalamatl*. The first turn through the *tonalamatl* would take us to September 17, and in the remainder of the year we would use 105 of the 260 indices over again. It is a point for immediate emphasis that at the end of the year the Aztec did not begin a new *tonalamatl*, but went right on in the new year with the remainder of the *tonalamatl* which he had already partly used. Eternity for the Aztec consisted of an endless series of dates, occurring in regular cycles of 260, irrespective of how these cycles conformed or failed to conform to the actual year-periods. We see, therefore, that the same principle is applied to the *tonalamatl* as a whole, that was applied in the case of the two factors mentioned above, the twenty symbols and the thirteen numerals.

It must be remembered that the list of day-symbols, and the numeral series, are used over and over again in two independent cycles, *ad infinitum*. It is obvious, therefore, that in a year of 365 days the list of twenty day-symbols will be used eighteen times, with the addition of five signs out of the nineteenth revolution ($365 = 20 \times 18$, plus 5). If a given year begins with the *first* day-symbol, then the next year will begin with

²¹ See page 314 of the present paper, note 23.

the *sixth*. The next year after that must begin with the *eleventh*, and the year after that with the *sixteenth*. All this follows mathematically from our premises. The year after the one last mentioned (that is, the fifth year reckoning from a given point) begins with the sixth day-sign succeeding the one last mentioned, which is again the first of our series of twenty. It must be remembered that there is no twenty-first in the series. The sign following the twentieth is of necessity the first. Hence, no matter how often the *tonalamatl* is used, the only symbols which will appear on the initial days of years are the first, the sixth, the eleventh, and the sixteenth of our list. This follows as a mathematical result merely of applying a series of twenty day-signs in rotation to a year of 365 days. The Aztecs were accustomed to name the year after its initial day.²² There were, therefore, only four of the twenty signs which could, in the nature of the calendar, stand at the beginning of the year and serve for year-names. It might be well to follow an established custom and call these four the *dominical* day-signs. As a matter of fact, the Aztecs named their years after the thirteenth, the eighteenth, the third, and the eighth symbols of the list as it is given above. Every year must begin either on the sign *Acatl* (cane), *Tecpatl* (flint), *Calli* (house), or *Tochtli* (rabbit). If we assume that the year begins with one of these signs, the other three follow mechanically. The reason for the shift from the use of the first, sixth, eleventh, and sixteenth day-signs as dominicals, to the third, eighth, thirteenth, and eighteenth is not known. The facts concerning the beginning or initial day-signs were first rendered absolutely certain, I believe, by Mrs. Nuttall at a meeting of the International Congress of Americanists at Huelva, Spain, in 1892. It must simply be admitted that the first sign in the list, according to the usage of the Aztecs at the time of the Discovery, never fell on the first day of the year.

Applying to the numerals a procedure similar to the one we have just applied to the day-signs, it becomes evident that

²² Nuttall, 1903, p. 13. Seler (1893, p. 142) advances the opinion that they named the year after the first day of the fifth month. Without discussing this point, it is a fact that in general the Aztecs called the year after the index of one particular day in that year. It seems altogether likely that they would select the first day for this purpose.

the whole series of thirteen numerals would be used twenty-eight times in a year and still have one day unaccounted for ($28 \times 13 = 364$, only, while there are 365 days in the year). Remembering the Aztec principle of reverting to the first as soon as a series is exhausted, it is evident that if the first day of a solar year had the numeral 1, the last day of that year would also have the numeral 1. The next year would therefore begin with the numeral 2. This second year, like the preceding one, would end on the same numeral as the one it began with; and hence the third year in the series would begin with the numeral 3. Thus the years in their flight begin with the various numerals in order—a very curious thing, depending on the fact that (1) the year has 365 days, and (2) the numeral series is contained in the year a certain number of times with a remainder of one. Assuming that the Aztecs, before their calendar system was invented, were familiar with the length of the year, it is almost conceivable that they chose thirteen numerals on account of the very consideration that every successive year would in that way begin with a different numeral. Fourteen numerals, however, would of course have served this particular purpose quite as well as thirteen. Such a reason for the selection of thirteen is about as good as any so far offered. To recapitulate: The Aztecs had for calendrical calculations twenty day-signs, thirteen numerals, and a certain number of year-signs, the latter consisting of the indexes which fall on the day on which the year begins. There are only four day-signs which fall on the beginning days of years, according to the Aztec system of revolving the calendar; but each of these four signs combines in regular order with one of their thirteen numerals. The total number of indexes which can fall on the initial days of years is therefore four times thirteen, or fifty-two.

It might be well to take some definite examples of the working of this system. Let us assume that the first year of a period begins with the date 1 Cane; the next must begin with the date 2 Flint; the next with the date 3 House; and the next with the date 4 Rabbit; and so on, until every one of the four signs has occurred with each of the thirteen numerals. It will be remembered that the Aztecs named the year after its initial date (see

page 312, above). The Aztecs could with propriety speak of the *day* 3 House, in the *year* beginning with 4 Rabbit. Such a combination "3 House, 4 Rabbit" could not occur again until a whole series of fifty-two years was passed over.²³ As a matter of fact, the Aztec dates were written in precisely this manner, naming both the day-index and the year in which it occurred. The index falling on the beginning day of a year is regularly found associated with a peculiar "year" sign, looking like a monogram composed on an incomplete A and O (fig. 3). It is obvious that at the end of fifty-two years there are no new "year" signs to

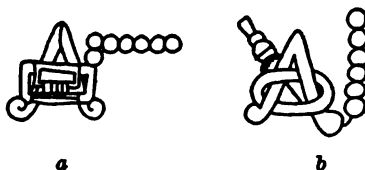


Fig. 3.—The Year-symbol or Year-sign

a, 7 House (Nuttall (Zouche), p. 52); *b*, 6 Cane (Nuttall (Zouche), p. 44).

be employed, since all the possible initial day-signs have combined with all thirteen numerals. It becomes necessary after fifty-two years to begin with the first again. At the end of such a fifty-two year period the Aztecs celebrated what is called a "tying of the years." The priests kindled new, clean fire with the fire-drill, which was distributed broadcast, and a fresh start in reckoning was taken. Such a fifty-two year period is called a "cycle" (in the Maya calendar of Central America, a "calendar round"). There seems to have been no way known to the Aztecs of distinguishing the dates in a given cycle from those in other cycles. The Aztecs, then, had no fixed point from which they reckoned, and every fifty-two years really represented a new calendar. Their records could hardly be said to cover a longer period than this. Tradition or legend might go back enormously further, but a point never to be too much insisted upon is that

²³ Bearing always in mind the proviso that there might, in certain cases, be two dates "3 House" in the same year. If the Aztec had wanted to be specific in such a case, he could do so only by stating how much time had elapsed since the beginning of the year, or by putting with the day-index a picture of the special divinity who ruled over that day and no other (Seler, 1891, p. 18).

when the Aztec chronicler spoke of what had happened a couple of centuries before his own time, he was imparting essentially mythological information, and was not dealing with historical or chronological facts. In spite of their complex calendar system, the Aztecs, at the time of the Conquest, were a people without a history.²⁴ It seems entirely probable that the archaeologist will, within the course of the next few years, know vastly more about the history and antecedents of the peoples and tribes known collectively as the Aztecs, than they ever knew themselves. This history will be reconstructed from their archaeological remains, not from their writings.

This calendar system would, therefore, seem in a sense to be a failure. In justice to the Aztecs, however, it must be remarked that their calendar was not devised for the purpose of keeping chronological records. If an Aztec knew in a general way that a given event happened in the time of his grandfather, he seems to have considered himself amply informed. Their calendar was a matter, not of the past, but entirely for the present and the future. Certain combinations of signs used in dating were held, for reasons we can no longer fathom, to imply good fortune. Certain other combinations spelled disaster and woe. The calendar was very generally employed, in accordance with this notion, as a means of soothsaying or divination. Every date had a meaning of its own, irrespective of its relation to other dates. It was in this aspect of the calendar that the Aztec found himself most vitally interested. Their attitude is brought out very nicely by the fact that they gave a man, for his personal name, the index of the day of his birth.²⁵ This date served him for a name until he won so much distinction and honor that he deserved a better one—an attitude that in general is quite in line with the customs of the American Indians in other parts of the New World. The 260 indexes of the *tonalamatl*, then, appear quite commonly in the Aztec manuscripts as the personal names of heroes. So far as I know, however, they kept no record of how old any individual was. The fact that he was born under certain auspices was important. Nobody cared about his actual age. The calendrical

²⁴ Brinton in his various works insists on this point.

²⁵ Codex Magliabecchi (Nuttall, 1903), p. 12.

achievements of the Aztecs, then, are not to be measured by their success in writing chronological history. There are certainly not to be adjudged as having made a failure of something which they after all rarely dreamed of attempting.

CORRECTIONS OF THE CALENDAR

We saw above that the Aztec year had a length of 365 days. The actual length of our solar year is appreciably greater than that—365 days, 5 hours, 48 minutes and 46 seconds, to be exact. The ancient Mexicans, then, made the mistake every year of beginning the new year more than five hours too soon. Such a habit as this leads in the long run to some confusion. In the course of four years the accumulated error makes a difference of practically a full day. At the end of a century of such continual and unrectified miscalculation, the New Year's festival, assuming that one exists, will be celebrated almost a month before the proper time. Such matters take on an appearance of some importance when we reflect that the Aztecs were, above everything, an agricultural people. If conditions found to-day among the agricultural Indians of the United States (for example, in the Southwest) are any criterion, it seems rather likely that the ancient Aztecs took a fanatical interest in the maturing of certain crops. To the sedentary Indian of the United States the center of everything is his cornfield. That the attitude of the ancient peoples of middle America was, as a matter of fact, not essentially different is shown by a passage in the famous "Franciscan Chronicle"²⁶ referring to the Cakchiquels of Guatemala:

If one looks closely at these Indians, he will find that everything they do and say has something to do with maize. A little more, and they would make a god of it. There is so much conjuring and fussing about their cornfields that for them they will forget wives and children, and any other pleasure, as if the only end and aim in life was to secure a crop of corn.²⁷

It seems entirely probable that the most important religious festivals in Mexico, as among the recent agricultural Indians in

²⁶ *Crónica de la S. Provincia de Guatemala*, etc. See bibliography at end of this paper.

²⁷ *Op. cit.*, chapter VII, quoted by Brinton, 1885, p. 14.

eastern and southwestern North America, were connected with the crops.²⁸ The religious symbolism of the ancient Aztecs is almost as thoroughly pervaded with references to corn-deities and rain-gods, as are the rituals of the modern Pueblo Indians. The festivals of a people so interested in crops must necessarily have reference to certain fixed seasons of the year. It seems likely, therefore, with regard to the Aztecs, that very serious discrepancies arose at a very early period between the time for the ceremonies, as shown by the progress of the calendar, and the occasion for these observances, as indicated by the state of the crops. The calendar system, it must be remembered, in the form in which we know it, has a history of many centuries behind it. Its symbols occur on some very ancient monuments. Time enough had elapsed, therefore, by the period when our record opens, for such discrepancies to have become acute. The Aztecs, owing to this "precession" of their calendar, might well have found themselves at times celebrating harvest-home festivals before the crops were so much as put into the ground. Each generation must have discovered, from its own experience, that their year of 365 even days was too short. From what we know of Aztec life, then, we should expect to find some provision in their calendar for corrections of some sort or other.

No marked success, however, has met the numerous efforts which have been made to prove that a system of periodic corrections or "intercalations" really existed. The present writer, moreover, cannot but feel that all the theories so far advanced concerning the Aztec system of correction have been founded more or less frankly on the knowledge which civilized students have of what the correction ought to have been. Our system of adding a day every four years produces a calendar very nearly correct. The error between the time of Julius Caesar and the year 1752 amounted to only eleven days all told. We can say at once, however, that the probabilities are all against the Aztecs having made this correction of one day in every four years, or any equivalent interpolation. Lacking instruments of precision and chronometric appliances, and being also without real written records,

²⁸ See, for example, the *Codex Magliabecchi* (Nuttall, 1903), pp. 63, 79, etc.

such an interpolation on their part would have been a most surprising accident.

All the theories and commentaries written by modern scholars on the question of Aztec intercalation are based on relatively few original sources. By an original source is meant, in this connection, accounts obtained by people who were actually in contact with the Aztecs before their calendar lore was lost. The following list represent a few of the most frequently quoted of these "original" authorities (page 319, upper half).

On the soil afforded by the sources named, a number of curious and interesting theories have blossomed. The theories concerning intercalation are distinguished, first, by their variety, and secondly, by their ingenuity. No one of them seems to my mind, under the conditions given, to be plausible. It is only fair to state that the most ancient accounts exhibit about as much diversity as the most recent critiques. In the case of Sahagun, for example, we find the original author virtually contradicting himself.²⁹ The variety of the modern opinions in the matter of intercalation is brought out quite clearly by putting them side by side in the form of a tabulation (page 319, lower half).

So much for the evidence of intercalation on the positive side. There is certain evidence, however, that seems to indicate that the Aztecs must have been unacquainted with the whole principle of calendar correction. Of first importance is the curious fact mentioned by Seler³¹ that when Sahagun talked with certain "old men, the most skilful possible," at Tlaltelolco, forty years after the Conquest, their reckoning of the events of that Conquest were already ten days in error. It seems impossible to over-emphasize the importance of such evidence as this. It is of vastly more significance than any number of statements from the Indians as to what their custom was or was not. The hard facts in the case seem to partake of the nature of a demonstration, either that they had no intercalation, or, if any such principle was employed, that they applied it only to periods of over forty years duration. Another bit of negative evidence

²⁹ Compare the doubtful statements in the second book, chapter 19, with the vigorous ones contained in the Appendix to the fourth book.

³¹ 1891, p. 19.

SOME OF THE MORE IMPORTANT ORIGINAL SOURCES FOR THE STUDY OF THE AZTEC CALENDAR
(OTHER THAN NATIVE MANUSCRIPTS)

<i>Author</i>	<i>Principal Work</i>	<i>Date of Composition</i>	<i>Date of Publication</i>
Fernando de Alva Ixtlilxochitl	<i>Historia Chichimeca</i>	1608-1616	<i>In</i> Kingsborough, London, 1881; <i>also in</i> Ternaux-Compans, 1838.
Toribio de Benevente, called "Motolinia"	<i>Historia de los Indios de Nueva España</i>	1541	Paris, edited by Bertrand, 1840; Mexico, edited by Chavero, 1891.
Bernardino de Sahagun	<i>Historia general de las cosas de Nueva España</i>	1546-1569	Mexico, edited by Bunsamant, 1829; Paris, edited by Jourdanet and Simón, 1880; <i>also in</i> Kingsborough, London, 1881, <i>and in</i> Ixtlilxochitl, Mexico, 1858.
Jacinto de la Serna Juan de Torquemada	<i>Manual de los Ministros de las Indias Monarquía Indiana</i>	1656 1688-1609	<i>In</i> Anales del Museo Nacional, Mexico, 1899. Sevilla (Madrid?), 1616. Ed. 2, edited by González-Barcia, Madrid, 1878.
An Unknown Friar	<i>Cronica de la S. Provincia del Santísimo Nombre de Jesus de Guatemala</i>	1683	

VARIOUS AUTHORITIES ON INTERCALATION

<i>Author</i>	<i>Theory of Correction</i>	<i>Reference</i>	<i>Based on</i>
Zelia Nuttall	18 days added every 52 years	1904, p. 486	Serna, Sahagun.
Carlos Sigüenza (followed by Clavijero, 1870)	18 days added every 52 years	<i>Ciclografa Mexicana</i> (work lost, 17th century)	Supposed to be based on certain Ixtlilxochitl manuscripts.
Antonio León y Gama (followed by Troncoso)	25 days added every 104 years	1792, p. 62	Hypothetical reconstruction of the calendar.
Mannuel Orozco y Berra	12 and 18 days added alternately every 52 years	1880, vol. 2, p. 60	Codex Borja (which he undoubtedly misinterpreted).
Jose Fabrega (followed by Von Humboldt)	7 days suppressed every 1040 years	1899, p. 146	Misinterpretation of Codex Borja, pp. 62-66.
Eduard Selzer	10 days added every 40 years	1908, p. 49	Sahagun.
Various authors*	1 day added every four years		
Eduard Selzer	No intercalation employed	1891 translation, p. 21	Sahagun, Motolinia, Torquemada, Franciscan Chronicle.

* Referred to by Freyre, in the *Cyclopaedia of Religion and Ethics*, article "Calendar: Mexican."

is of an equally uncompromising nature: None of the ancient manuscripts show any trace of intercalation, though some of them involve rather longer periods of time. This latter statement applies with particular force to the Vatican manuscript 3738 (Vatican Codex A).³²

All the arguments for intercalation seem to involve one fundamentally wrong conception. There exists a school of thought which sets up, in this part of the New World, a strong centralized government, with a king at its head, whereas there existed in all probability merely a weak confederation of utterly democratic Indian pueblos, directed by a war-chief who was elected to supervise military operations merely. Some of the ideas expressed concerning the calendar seem to hinge on this misconception. Not enough attention has been paid in this connection to Bandelier's papers.³³ The works of many European writers on American institutions still involves thrones and principalities, crowns and scepters, very much as though Bandelier had never written. The usual assumption is that, granted the existence of an empire, there must have been in ancient Mexico some one universal system of calendar correction, and that it is our duty to find out what this system was. There is, as a matter of fact, some reason to believe that there was in the last analysis no fixed, authoritative calendar, to say nothing of an official system for correcting it. Considerable evidence is available that the whole Mexican system was in a formative and somewhat chaotic condition. It may be well to enumerate some of the points that would suggest this conclusion.

Sahagun tells us, for example, that the beginning of the Aztec year differed greatly in different places. When he himself wished to find out with what day the year began, he had to call a conference of "old men" and "scholars," and they disputed over the matter "for many days." Finally, apparently as a compromise, they decided on February 2.³⁴ In other words, the required date was not a matter of fact; it was a matter of

³² Consult Seler, in the passage just mentioned.

³³ "On the art of war and mode of warfare of the ancient Mexicans"; "On the distribution and tenure of lands and the customs with respect to inheritance among the ancient Mexicans"; "On the social organization and mode of government of the ancient Mexicans." 1880.

³⁴ 1831, p. 192.

opinion, and involved the reconciliation of conflicting reckonings. In this connection it is furthermore worth noting that even the names for the day-signs varied apparently from pueblo to pueblo. A very interesting list of day-signs from Meztitlan, quoted by Selser,³⁵ has a sign "Earth Goddess" in the place usually occupied by Water-monster. This same list differs from that of Mexico City in having "Young Maize Ear" in place of Lizard; "Milling-stone" in place of Vulture, and "Tooth" instead of Grass. It seems probable that additional lists from independent localities, or from a number of different pueblos, would reflect even greater variety in the names for the separate days. In view of these facts, it does not seem proven that there was any universal or regular system of calendar reckoning among the Aztecs. We must remember, also, that intercalation is hardly more than a novelty in Europe. Until the time of Julius Caesar, our own European calendar was a very helter-skelter institution. The pontiffs of republican Rome "squared" the calendar with the seasons as the emergency arose, and as opportunity seemed to offer. From what we know of Mexican civilization in general, with its independent towns and distinct linguistic areas, it seems highly unlikely that the ancient peoples there had any better arrangement than the Roman one. The evidence and the probabilities are vastly in favor of the idea that no regular system of calendar correction existed in ancient Mexico.³⁶

ORIGIN OF THE CALENDAR SYSTEM

It remains to discuss the origin and basis of this series of calendar symbols. Concerning the actual evolution of the signs, nothing is known. To discuss the matter with any degree of profit, access to considerable collections of the more ancient Mexican monuments would be necessary. Perhaps with a study of such monuments it would be possible to establish the evolution of the system in a general way. It is also impossible to say why the particular twenty objects which appear in the ordinary

³⁵ 1900-1901, p. 7.

³⁶ Compare Preuss, in the *Cyclopaedia of Religion and Ethics*, article "Calendar: Mexican," where similar conclusions are briefly expressed.

tonalamatl were chosen. Resemblances of a rather striking sort exist between the calendars of Mexico and, for example, China. The analogy embraces not only the arrangement of dates in cycles, and the method of combining signs with numerals, but in some cases even identity of the signs employed. For that matter, there are undoubted points of analogy between the Aztec signs and certain of the signs of our own zodiac. However, to put forward the claim, which is occasionally heard, that such resemblances are proof of contact, or of a migration from China, is to run counter to the entire trend of the evidence of Mexican archaeology as a whole. It becomes constantly more obvious that the civilization of Middle America was really an autochthonous development, though discussion on the matter is still heard. It may be taken for granted, therefore, that we must look for the development of the Middle American calendar system on the spot. So far as I know, however, no one has tried to treat the subject historically. The effort so far has been to account for the development of the calendar, especially its numerical elements, on a psychological basis.

The Reason for Twenty as a Factor

The one solitary point on which students of the Aztec calendar agree concerns the reason for the selection of *twenty* day-signs. This factor twenty is assumed to have its foundation in the Aztec numeral system. The Aztecs, that is to say, like many nations of ancient and modern times, had a system of numbers based on twenty instead of on ten. A very interesting discussion of this system may be found in Cyrus Thomas' paper "Numeral systems of Mexico and Central America."⁸⁷ It stands quite to reason that their numeral system must have developed much earlier than their peculiar calendar. No further explanation is needed, therefore, in the opinion of many scholars, for the fact that they chose twenty day-signs. It seems, on first glance, to be just what would have been expected from a knowledge of their arithmetic.

⁸⁷ 1897-1898, b.

The Reason for Thirteen as a Factor

When we consider the fact, however, that the twenty day-signs were combined with thirteen numerals we are confronted by a genuine puzzle. Opinions about the reason for the existence of a series of thirteen numerals are almost as numerous as the authors who have discussed the subject. If, as a matter of fact, the existence of a vigesimal numeral system led to a selection of twenty symbols, we should certainly expect it to lead to the selection of twenty calendar numerals. Why do we find only thirteen? The artificial character of most of the hypotheses concerning this point is made evident by merely putting them side by side.

VARIOUS SUGGESTIONS TO ACCOUNT FOR THE ELEMENT THIRTEEN
IN THE CALENDAR

1. The factor thirteen appears because the most important parts of the body are thirteen in number: namely, the ten fingers, *one* ear, *one* eye, and the mouth. (Förstemann.)³⁸
2. Thirteen represents the period of the moon's waxing, or waning.³⁹
3. Thirteen was chosen because the ancient Mexicans had a conception of thirteen heavens. (Förstemann.)⁴⁰
4. The title-page of the Tro-Cortesian codex has a representation of the four cardinal points, counting in both directions, followed by the symbols for the zenith and nadir, and another one unfortunately obliterated. Above these are written the numbers one to thirteen. Does this account for the thirteen of the calendar? (Cyrus Thomas.)⁴¹
5. The Aztecs established a year of 364 days, because they needed for the year a quantity divisible by 4. The quantity (364) factors into 4×91 , also into 28×13 . Hence 13. (Förstemann.)⁴²
6. Thirteen is derived from the fact that 8 solar years are equivalent to 5 "Venus" years. The Aztecs, in devising their calendar, chose a unit consisting of a combination of 8 and 5. Hence 13. (Seler.)⁴³

³⁸ 1893, p. 494.

³⁹ This suggestion is mentioned by Preuss in his article on the Calendar to which reference was made above (footnote 37), and by Bowditch (1912, p. 266).

⁴⁰ 1893, p. 494.

⁴¹ 1897-1898 b, p. 954.

⁴² 1893, p. 494.

⁴³ 1900-1901, p. 17 (following Troncoso).

These suggestions, while more or less ingenious, are rather obviously artificial. The points involved in the first suggestion, for example, would, if logically carried out, have resulted not in the selection of thirteen numerals, but of some other number. If, in making up a list of the most important parts of the body, they were to count all ten fingers, half at least of which are exactly like the other half, and which are not individually organs of supreme importance, they would certainly have counted both eyes. As regards the second suggestion, considerations of fact thrust themselves forward. The actual period of the moon's waxing is not thirteen days. Besides, if the moon had had any effect on the evolution of the Aztec calendar, we would certainly look for some traces of a lunar month. Nothing is simpler than to count from one full moon to the next. The Aztecs would hardly have made half of the moon's period an element in their calendar and ignored the full period. The next two suggestions in the list involve what is probably a logical inversion. It seems likely that if the Aztecs conceived of thirteen heavens, or thirteen gods of the day, it was because, for calendric or other reasons, the number thirteen was already uppermost in their consciousness. The number thirteen seems, as a matter of fact, to be rather important in their institutions. Thus there were thirteen divisions in the Mayan armies; there are thirteen serpents in the Tzental mythology; and to the Cakchiquel the thirteenth day was sacred.⁴⁴ It is, however, as plausible to consider these ideas a derivative from the calendar as to turn the proposition the other way about.

The most abstruse theory is that of Förstemann (number 5 in the list just given). He assumes that the Middle American peoples began by having a year of 360 days. Finding it too short, they increased its length not to 365 days, but to 364, because for personal (and it must be added, quite mysterious) reasons they wished the number of days in the year to be divisible by four. But a year of 364 days naturally divides itself into subdivisions of twenty-eight days, and there are thirteen of these subdivisions. Hence the thirteen of the calendar. Aside from its highly elaborate character, this theory does not account for

⁴⁴ Cyrus Thomas, 1897-1898 *b*, p. 953.

the fact that the Aztecs selected the thirteen rather than the twenty-eight, or for that matter, rather than ninety-one, which is as much a factor of 364 as are the other two quantities.

If Förstemann's theory is the most abstruse, the one advanced by Seler enjoys the distinction of being the most complicated. His hypothesis involves his favorite idea that the Mexicans laid stress on a "Venus" year of 584 days. He is struck with the fact, which is in a sense a curious one, that five of these Venus years make up a period exactly equivalent to eight solar years. He then makes the assumption that the Aztecs chose, as the basis of their calendar, a period consisting of these two periods taken together, or 949 days. The greatest common divisor of 365 and 584 is 73; the solar year is five times, the Venus year eight times, and the "basic" period thirteen times this factor. Hence the element thirteen. If Seler's theory is true, it must be borne in mind that while these computations were being carried out in the mind of the ancient inventor of the calendar, the days were still nameless. They derive their names by the combination of certain signs with these very thirteen numerals whose origin we are discussing. Seler assumes therefore that the Aztec dealt with such large numbers of days as 949, and traded such groups of days about in their minds, before they had names for any of them. In other words, he assumes that the Aztecs became skilled mathematicians, noted carefully the length of solar and planetary periods, and only after that sat down to invent names for their days. There is no evidence in the whole of human history that institutions develop in this way. The probabilities of such a development having occurred with the calendar of the Aztecs are, it seems to me, too remote to make the theory worth elaborating.⁴⁵

Some scholars try to explain, not the occurrence of thirteen as an element in the calendar, but the occurrence of the *tonalamatl* of 260 units. If for the first step the Aztecs recognized 260 as a fundamental quantity, and for the second step selected twenty day-signs because the vigesimal character of their numerals suggested such a course, they would derive the third

⁴⁵ It is only fair to remark that Seler, judging from his phraseology, seems to feel somewhat the same way about it himself.

element by dividing 260 by 20, thus getting 13. Several explanations, as a matter of fact, have been advanced which account for the element 260 directly. Someone has suggested that nine was a sacred number, and that 260 represents the total number of days in *nine* lunations. This hypothesis has been mentioned favorably by Mrs. Nuttall.⁴⁶ Aside from other objections, nine lunar months give, as a matter of fact, not 260 but approximately 265½ days. Another hypothesis, which dates from very early times (possibly from Motolinia)⁴⁷ is based on the idea that 260 days represented the period of visibility of Venus. This hypothesis might at least be discussed if Venus really were visible for 260 days. Unfortunately, nothing of the sort is the case. As remarked by Beuchat,⁴⁸ the 260-day period does not correspond to the duration of any known astronomical phenomenon. Still another hypothesis derives the importance of 260 days, and the use of that period in the calendar, from the fact that pregnancy occupies that time. This last suggestion would perhaps be the most plausible of the lot if pregnancy lasted for that period. It has been advanced by Mrs. Nuttall,⁴⁹ before her by Förstemann,⁵⁰ and before him by Torquemada. Aside from its relative simplicity, it seems to have little in its favor.

Goodman, whose monograph was probably the most important single contribution to the subject,⁵¹ holds the opinion that the 260 is not necessarily based on the combination of twenty and thirteen, but that it became established because it was a unit that divided up very conveniently in a number of ways.

Everything considered, I am inclined to advance the conviction that the factors thirteen and twenty are the original elements in the *tonalamatl*. It would seem most plausible, other things being equal, to suppose that these two simple factors evolved in some way, and that the *tonalamatl* is the product of them. Very likely there was a simple and practical reason which led to the selection of these two factors in the first place. It may

⁴⁶ 1904, p. 495.

⁴⁷ See Seler, 1900-1901, p. 16; Nuttall, 1904, p. 495.

⁴⁸ 1912, p. 334.

⁴⁹ 1904, p. 495.

⁵⁰ 1895, p. 532.

⁵¹ 1897, p. 29.

safely be said, however, that this reason is not obvious at the present time.

Derivation of the Calendar Symbols

Reference has been already made to the fact that the calendars of all the more highly civilized peoples of Middle America have many points in common, and are constructed along practically the same lines. It is obvious at once, therefore, that there is opportunity offered for the most interesting comparative study. Such investigations have been carried out with gratifying results by Professor Seler. Two of his works are of especial interest from this point of view, namely, his "Mexican chronology with especial reference to the Zapotec calendar,"⁵² and his monograph on "The *tonalamatl* of the Aubin collection."⁵³ Discussion as to the probable place of origin of the calendar, and the derivation of its signs, is therefore unnecessary here. Of the two papers mentioned, the latter in particular contains a systematic presentation of the affiliations of the whole series of symbols, in order.⁵⁴ The matter may be dismissed in the present connection with the remark merely that Professor Seler's evidence in these two papers is almost entirely of a linguistic character. Archaeological evidence has never been applied to this question.

Probable Line of Evolution

There are really two types of explanation possible for the existence of this complex calendar—gradual evolution or sudden creation. Of the two hypotheses I vastly prefer the first, on general principles. Discussion will be out of place, however, until we have some actual data to discuss. Some of the most distinguished Americanists, on the other hand, seem to regard the calendar as a sudden invention. Seler, as quoted above, views the calendar in its entirety as the product of some one author or set of authors, working consciously toward the elaboration of a system. Mrs Nuttall⁵⁵ also voices the belief that the

⁵² 1891.

⁵³ 1900-1901.

⁵⁴ *Op. cit.*, pp. 9-16.

⁵⁵ 1904, p. 494.

system had an inventor (not to describe him more definitely) who actually had in view, and provided for, an epoch of 1040 years. He is supposed to have made provision in his calculations for 260 Venus periods, rectified by 260 separate five-day corrections, and to have provided for twenty intercalations. She seems to regard the twenty day-symbols, the *tonalamatl*, the whole complex institution, as the product of one tremendous cerebration. Though I profess myself unable to discuss the evolution of the system in definite terms, I wish to register my profound unbelief that it took any such line as this. The chances are, it seems to me, that the calendar has an actual history—a history of gradual accretion, change, and elaboration. I am inclined to think that the Aztec calendar system frequently suffers from being considered apart from its setting. It is important to remember that it was the work of Indian tribes who had hardly passed beyond the threshold of civilization. While elaborate, it is, like many primitive achievements, rather awkward and inefficient even in its perfected form. The operation of the Mexican calendar system recalls the faults of their method of picture-writing. Both institutions impress one with a sense of their futile ingenuity. Any writer who treats of the Aztec calendar ought, I think, to preserve in his mind a very lively picture of the Indian pueblos in which it developed. It is certainly absurd to put the Mexican calendar on a plane of equality with the calendar systems of those nations of the Old World who had written records, and at least the beginnings of science. Further than to insist that the calendar probably has a history, it seems impossible to go.

THE DELINEATION OF THE CALENDAR SYMBOLS IN THE MANUSCRIPTS

We have seen that the various calendar symbols represent, at bottom, actual objects or phenomena. A possible exception occurs in the case of the "Motion" or *Olin* symbol, in which the graphic element seems to be obscured, if it ever had one. A good many tendencies operate in the case of most Aztec calendrical signs to change their original character. The simplest

of these tendencies is perhaps the mere desire for ornamentation or decoration. The native artist at times seems to regard the calendar signs as an admirable field for the expression of artistic taste. This is illustrated very well by the treatment of the serpent's head, used as the day-sign Snake or *Coatl*. Figure 4 represents the various manners in which this design is elaborated. In the drawings shown in the figure the general outline has not been seriously modified. The various artists do, however, show considerable discrimination in the choice of different styles of ornament which they apply.

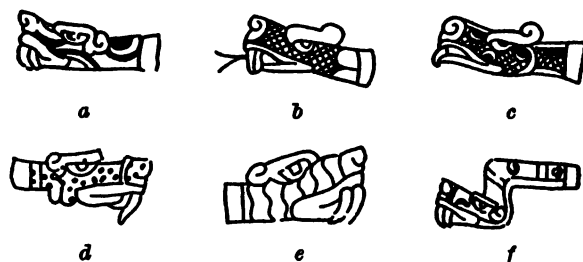


Fig. 4—Different Styles of Ornamentation applied to the Serpent Head

a, Vatican B, p. 4; b, Nuttall (Zouche), p. 4; c, Nuttall (Zouche), p. 61; d, Vatican B, p. 4; e, Vatican B, p. 5; f, Vatican B, p. 81.⁵⁶

The same point is brought out very clearly in the case of the different representations of Water-monster (*Cipactli*). This is illustrated in figure 5. The head in every case is reptilian in contour, possesses a prominent eye-plate, and is characterized by the presence of a row of enormous triangular teeth. The surface of the head is elaborated into spots, vertical lines, bars and dots in a variety of arrangements.

The first point in the study of the day-signs, as they are delineated in the manuscripts, is therefore that there is evident considerable play of the artistic impulse. As a result, many fanciful modifications of the original idea are in each case to be looked for.

Another point deserving emphasis is this: that the native artists, in delineating day-signs, were dealing with subjects per-

⁵⁶ See note 15, p. 305.

fectly familiar to themselves and their audience. They were at liberty therefore to reduce their pictures to the most naked symbols without danger of being misunderstood. Moreover, the signs in many manuscripts occur in a regularly established sequence, and in many cases the identity of a symbol may be

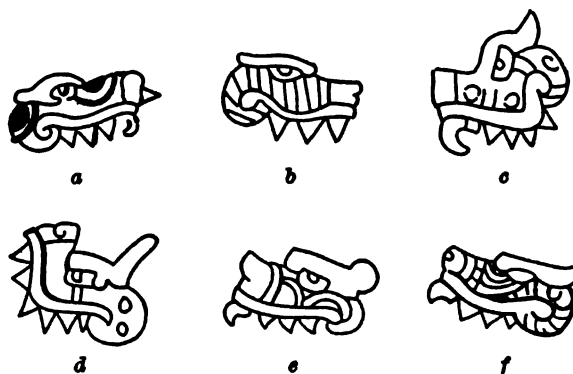


Fig. 5.—Ornamental Elaboration in the Decoration of the Water-monster Head

a, Vatican B, p. 4; b, Vatican B, p. 7; c, Vatican B, p. 67; d, Vatican B, p. 71; e, Vatican B, p. 1; f, Vatican B, p. 2.

determined as readily by its place in the series as by its appearance. In many cases, accordingly, we encounter symbolism run rampant. The symbols occur, in fact, in all stages of denudation. It would be easily possible, on the basis of the material in the manuscripts, to "trace the development" of the more simple and conventionalized designs from the more complicated and realistic ones, by the old device of putting the realistic at one end of a series and the conventional at the other. It is, however, worthy of note in this connection that we often encounter a highly complex form of a sign and a highly simplified one, side by side, on the same page (see fig. 6). In other words, the native artist apparently had complete forms of these day-signs always in his mind. Sometimes in writing down a given sign he would choose one or two features only, and in other cases would put them all down, with elaborate ornament in addition, if the space permitted and the humor struck him. One thing is perfectly evident from

a study of the available manuscripts: that in the execution of the day-signs, a considerable part is played by caprice.

These conditions permit almost unlimited convergence in the various designs, making it practically impossible in some cases

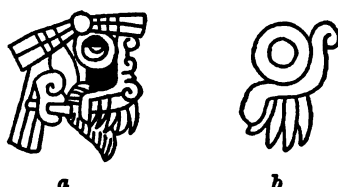


Fig. 6.—Two Forms of the Day-sign Rain (*Quiahuitl*), representing the Rain-god, *Tlaloc*

a, Human face with a goggle eye and long teeth; *b*, the same simplified. (Both from Nuttall (*Zouche*), p. 9.)

to identify a symbol when taken from its context. This is illustrated in figure 7. There is general similarity between the first two drawings (*a* and *b*), yet they represent quite independent day-signs, Flower and Cane. An even more extreme case is shown in *c* and *d* of this figure. *c* represents a human jawbone surmounted by an eye, and the whole accompanied by a tuft of grass. The whole composite figure represents the day-sign Grass.

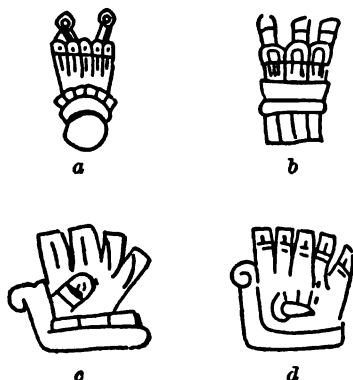


Fig. 7.—Drawings Similar to Each Other but Standing for Distinct Ideas

a, Flower (*Xochitl*), Vatican B, p. 7; *b*, Cane (*Acatl*), Vatican B, p. 11; *c*, Grass (*Malinalli*), Vatican B, p. 18; *d*, Water (*Atl*), Vatican B, p. 82.

d is a conventionalized representation of a vessel of water with a shell in it (see figs. 20 and 25) and stands for the day-sign Water. Yet the two symbols *c* and *d* certainly look as though they were intended to represent the same idea. This variability and convergence may be best discussed in connection with individual studies of each of the day-signs, and the various forms assumed by them. The tendencies just pointed out will be found to operate in the case of each of the day-signs taken up in the remainder of the paper.

THE TWENTY DAY-SIGNS: THEIR CHARACTERISTICS AND VARIATIONS

The effort has been in the following pages to collect the most divergent examples possible of the twenty day-symbols and to put them side by side for comparison. A good many Mexican manuscripts have been omitted from the returns submitted in this paper because they contained drawings of Europeans and European objects, and were therefore obviously late. Prominent among the manuscripts of this class which have not been considered are the Vatican Codex A (3738), and the manuscripts mentioned above, published in facsimile by the Junta Colombina in Mexico City⁵⁷ (the Codex Porfirio Diaz, the Codex Baranda, the Codex Dehesa, etc.). A good deal of material has thus been passed over as too inexact for the present purpose. Conspicuous in this category are the reproductions in Lord Kingsborough's enormous *Mexican Antiquities* already mentioned. Here the day-signs are so imperfectly drawn that any discussion of their forms would be wasted effort. The drawings in the Aubin manuscript, some of them reproduced below, are much worse than any of those in Kingsborough. The peculiarities of the day-signs in it are obviously the mere effect of ignorance and bad draughtsmanship. The Loubat edition of this manuscript constitutes a perfect copy of a defective specimen. The variant forms it contains have therefore a certain interest.

Wherever possible, the day-signs illustrated below have been compared with realistic drawings of corresponding objects. Study of these graphic drawings throws considerable light on

⁵⁷ See Chavero, *Antigüedades mexicanas*, 1892.

features of the day-signs which might otherwise be obscure. It is only fair to assume that the day-sign, where it is not realistic, is a simplified and conventional version of the graphic representation. It will in some cases be seen that the drawings which appear as day-signs are curious, not purely because they are day-signs, but because the Aztec artist had limitations even where he tried to be realistic. The realistic drawings which appear below are selected in every case from the list of original manuscripts which supplied the day-signs illustrated.

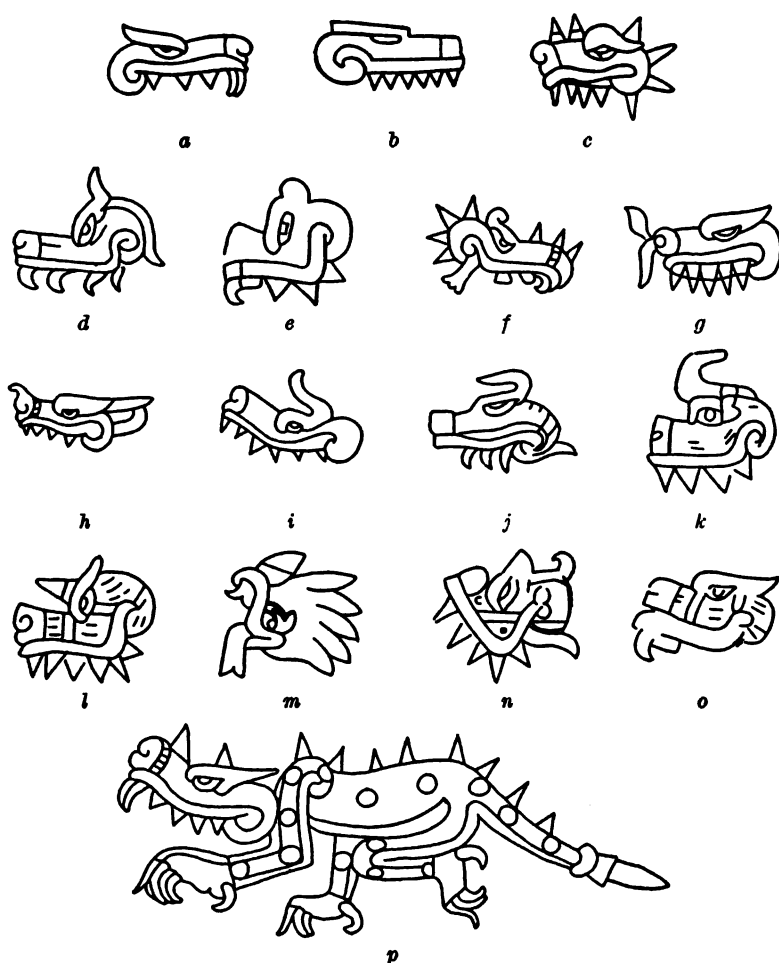


Fig. 8.—a-o, The Day-sign Water-monster (*Cipactli*);

*Water-monster (Cipactli)**Sources of drawings (fig. 8):*

a, Nuttall (Zouche), p. 76	i, Nuttall (Zouche), p. 47
b, Vatican B, p. 47	j, Vatican B, p. 80
c, Nuttall (Zouche), p. 35	k, Vatican B, p. 50
d, Vatican B, p. 87	l, Vatican B, p. 59
e, Vatican B, p. 73	m, Aubin, p. 13
f, Bologne, p. 3	n, Vatican B, p. 58
g, Nuttall (Zouche), p. 4	o, Vatican B, p. 5
h, Fejervary, p. 28	p, Nuttall (Zouche), p. 75

The drawings in figure 8 represent various forms of the day-sign Water-monster (*Cipactli*). The final drawing in the series (*p*) gives what must be regarded as an attempt at representing this animal realistically. This latter drawing (*p*) was selected from a page of the Codex Nuttall (Zouche manuscript) which represents a group of warriors moving in canoes to the assault of an island town. In the scene as given in the manuscript there is drawn a lake, containing in its depths, in addition to the present figure, a fish, several shells, and a snail (Codex Nuttall (Zouche manuscript), p. 75). The resemblance between the different forms of the first day-sign and this realistic drawing of a monster in the water, lend ample color to the name Water-monster applied to the day-symbol. The word *Cipactli*, the Aztec name of the day-sign, seems to mean first of all "prickly."⁵⁸ It is applied in the old vocabularies to an animal described as a "big fish like a cayman" (alligator). The corresponding day-sign of the Zapotecs of southern Mexico has a name defined as "great lizard of the water." It seems rather likely, all things considered, that the realistic drawing shown below (*p*, fig. 8) and the day-signs which so closely resemble it, are all intended to represent some of the American crocodilia. A glance at figure 8, *p*, however, will show that it is possible for even the realistic drawings of the animal to represent him as lacking a lower jaw. This absence of the lower jaw is quite a constant feature of this day-sign wherever it occurs. Other prominent features of the day-sign are a large eye-plate, which occurs quite uniformly, and large sharp teeth. In the realistic picture the creature is represented with spines

⁵⁸ Seler, 1900-1901, p. 9.

along his back, and on top of his snout. The spines along the backbone are a counterpart of those which occur on the actual animal. Those along the nose and head, however, are artificial additions. A study of figures *c*, *f*, and *p* of figure 6 makes it seem rather likely that these latter "spines" are in their origin merely additional teeth which have wandered up from the lower part or mouth part proper. On the other hand, they may be additions suggested to the Mexicans by their familiarity with horned lizards or "horned toads," which, barring size, are animals somewhat like the alligator but possessing horny or spiny heads.

The teeth shown in the different forms of this day-sign are worthy of remark in a general way. Figure 8, *d*, comes nearest to representing realistically true crocodilian dentition. The triangular teeth shown in *b*, a more usual type in the manuscripts than the others, seem to be merely conventionalized forms. The Water-monster signs have in their outlines at least a family resemblance to the sign Snake, or *Coatl* (see fig. 13). This resemblance has apparently affected the dentition given to the Water-monster, who is often provided not only with teeth, but with serpent fangs. The distinction between the two types of teeth is clearly made in the drawings lettered *a*, *e*, *f*, figure 8, and is perhaps suggested in *p*. In *m* we see not only a snake-like fang, but the forked tongue of the serpent as well. These points, suggested by or accompanied by an approximation in general form to the serpent type, seem to be purely a case of borrowing.

In a few of the drawings a nose-plug is exhibited (*g* and *m*). This is a purely human article of adornment, and one that is seen in many warrior and priestly figures in the manuscripts. In figure 8, *l*, the combination of a spine and an eye-plate looks almost like a sort of cap. The tail in figure 8, *p*, terminates in a flint knife, or a figure very much like the flint knives illustrated in figure 35.

In connection with the symbol Water-monster, Seler makes a remark which is in my opinion a sample of what ought to be avoided. He observes that the spikes on the top of the Water-monster's head are intended to represent stone knives. He "proves" that this is their original meaning by referring to a

page in the *Codex Borbonicus*, in which the spikes have the form of stone knives. There is a logical weakness here. In some manuscripts we find the Eagle's feathers also taking the form of flint knives (fig. 32, *g*). That does not prove that the feathers were originally drawn as flint knives. There is in general so much arbitrary simplification and elaboration in the representation of all the signs, that to light on any one variant and call it the original form is a waste of time. The only means we have of judging what the original form may have been is to find a representation of a given object which is evidently intended to be graphic. When, for example, the artist in the case of the *Cipactli* sign, which we are discussing, draws a monster in the midst of a lake surrounded with realistic representations of fish, snails, and bivalve shells, as in the case with the original of figure 8, *p*, it is only a fair guess that he intends his drawing to be realistic; and such a drawing probably represents his idea of what the animal really looks like. It is at least plausible to refer to the features of such drawings as the original ones. Even this is not really conclusive. The characteristics of the graphic representation may be affected by features borrowed from the familiar day-symbols. It would certainly be more plausible in the case of Seler's flint knives to make an assumption directly the contrary of Seler's, and say that his flint knives of the *Codex Borbonicus* are elaborated and re-interpreted teeth or spikes. It is hard to believe that the day-sign Water-monster could have begun its career in a form so peculiar as that of an animal set about with stone knives.

Seler's papers show another tendency which deserves comment. He often refers categorically to certain traits as characteristic of a given day-symbol. If one deliberately collects as many variant forms as possible of one day-sign, it is hard indeed to find any one feature which occurs in all of them. To give a specific example, Seler says that in representations of *Cipactli* "a row of spikes runs . . . along the vertical line of the head."⁸⁸ The drawings *a*, *b*, *e*, *g*, *h*, and *i* in the present figure, all six of them very beautifully drawn, are without this feature. The

⁸⁸ 1900-1901, p. 9.

absence of hard and fast rules of this sort will be emphasized in discussing others of the signs below.

One other feature of the Water-monster designs is worth mentioning. I refer to the artistic value of most of the heads as decorative objects. Most of these heads present a thoroughly picturesque appearance. The eye-plate is nearly always more or less flamboyant, as is, in many cases, the figure as a whole. Figure 8, *a-i*, are more typical in this respect than are the others.

Wind (Ehecatl)

Sources of drawings (fig. 9):

<i>a</i> , Vatican B,	p. 52	<i>j</i> , Nuttall (Zouche),	p. 1
<i>b</i> , Vatican B,	p. 7	<i>k</i> , Vatican B,	p. 71
<i>c</i> , Bologna,	p. 1	<i>l</i> , Nuttall (Zouche),	p. 16
<i>d</i> , Vatican B,	p. 71	<i>m</i> , Nuttall (Zouche),	p. 16
<i>e</i> , Nuttall (Zouche),	p. 5	<i>n</i> , Nuttall (Zouche),	p. 18
<i>f</i> , Vatican B,	p. 3	<i>o</i> , Fejervary,	p. 35
<i>g</i> , Vatican B,	p. 1	<i>p</i> , Nuttall (Zouche),	p. 3
<i>h</i> , Nuttall (Zouche),	p. 62	<i>q</i> , Nuttall (Zouche),	p. 65
<i>i</i> , Vatican B,	p. 87		

The various forms of this day-sign represent the wind-god, *Quetzalcoatl*, a name meaning literally, "Feathered Serpent." The symbol is associated however with the word *ehecatl*, or "breeze." Figure 7, *q*, gives an idea of the way in which the deity is represented realistically. He has here the form of a human being, running, and carries on his left arm a shield, with javelins, and in his right hand the *atlatl*,⁶⁰ or spear-thrower. His straight hair and a full beard are shown in the picture. His nose is prodigiously elongated, and the parts of his face around the mouth have the form of a bird's beak. It is rather hard to tell by inspection whether these two features are supposed to represent the actual facial peculiarities of the god, or simply a mask worn by him. On his head is a pointed cap, represented in many places as made of tiger skin, and at the back of his neck is a very characteristic fan-shaped ornament. The remainder of his

⁶⁰ Consult Nuttall, 1892.

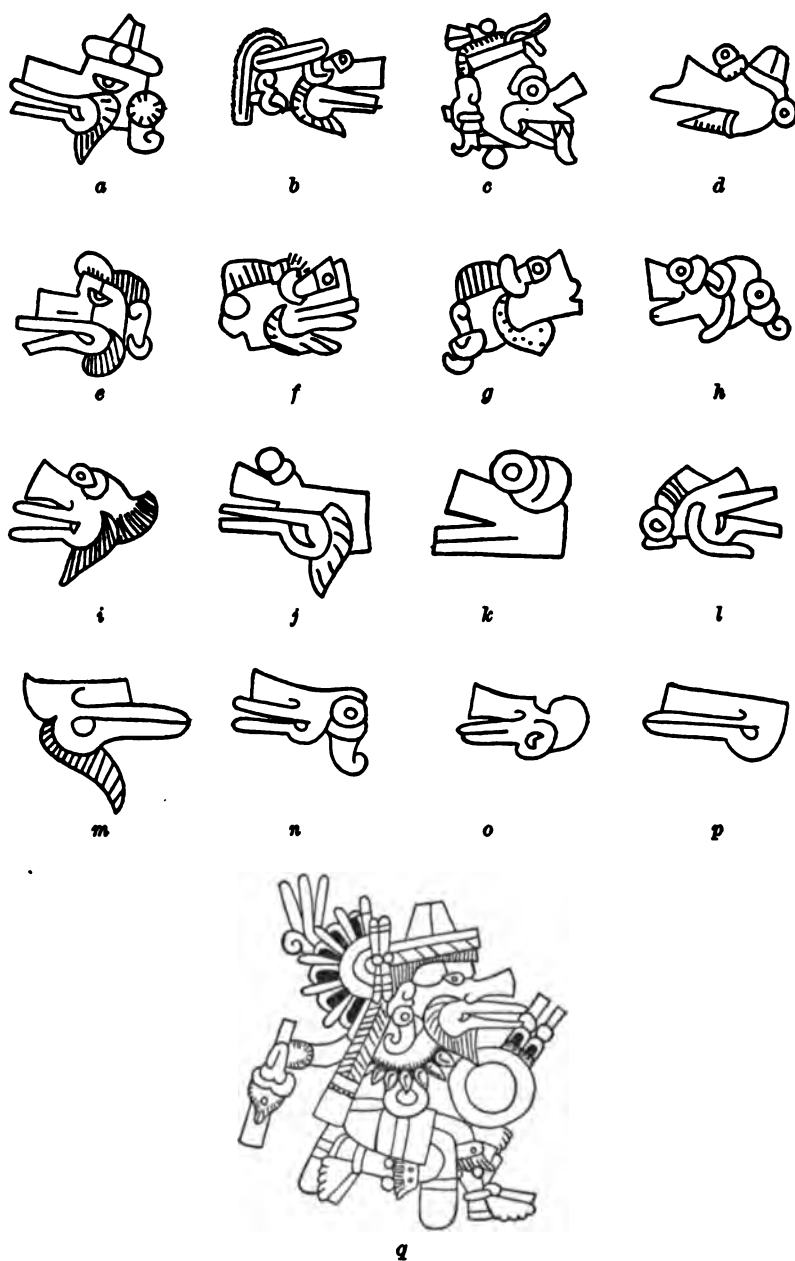


Fig. 9.—a-p, The Day-sign Wind (*Ehecatl*); q, Realistic Drawing of the Wind-god

costume is of the usual Aztec sort, consisting of a breech-cloth and sandals. The present drawing, however, shows in addition a necklace and a conspicuous ear-ornament. When we turn to the day-symbols shown in this figure, it is noticeable that they represent only the head of the divinity. A good many of the day-symbols in the manuscripts represent the head as described, with the hair, beard, cap, and mask or snout. Some of the manuscript drawings, on the other hand, are very much simplified. It would be quite easy to see in the present figure a "descending series" of drawings. Figure 9, *a*, for example which is a complete representation of the god with all the features, might be considered to represent the beginning of a process of degeneration, and figure 9, *p*, which is denuded of almost everything, the end of the process. It is even possible to fill in all of the steps between these two extremes, and to show how one by one the features might have dropped off. Figure 9, *a*, for example, has cap, beard, eye, ear-ornament, and snout. Figure 9, *e*, has lost the cap; *i* lacks the cap, and in addition has lost the ear-ornament. Figure 9, *g*, has lost, in addition to the foregoing the pupil of the eye; *m* has lost the eye altogether, retaining, of the original features, only the snout and beard. In *o* and *p* even the beard vanishes, and of the whole god nothing but the snout is left. The mouth of *a* degenerates in *p* to a mere line.

Such a series has, however, very little real meaning. The elaborate head shown in *e* was drawn by the artist who drew the simplified form shown in *p*, and the two drawings are on adjacent pages of the original text. Our text-figures therefore do not represent actual genetic series. It does seem possible, however, to interpret certain of the features present in the signs by a process of comparison. For example, some of the realistic drawings of the god represent him with a fang at the corner of his mouth. It seems likely that the fang is elaborated from a notch, which often occurs in exactly the same place and has very much the same appearance. If an "original" form is to be looked for, the notch might be interpreted as the down-curved mouth, which is the usual sign of old age, shown for example in figure 10, *b*. The fang form is especially clear in figure 9, *c*, *d*, and *l*. It seems rather likely that the notched disk below the corner of the

mouth in figure 9, *o*, represents this mouth-notch or fang, which has in this drawing wandered out of its proper place.

The eye in these representations of the Wind symbol does some curious things. In *b*, figure 9, it wanders out on the beak, and in *d* mounts up on a stalk. In drawings *f* and *h* this stalk becomes much elongated. The beard, too, shares in these changes. In figure 9, *f*, it loses its likeness to hair, retaining however its outline. In *g* the hair is replaced by speckles, and in *h* and *k* the whole beard degenerates into a mere sausage-shaped tag. Such series as are shown in figure 9, whether they represent

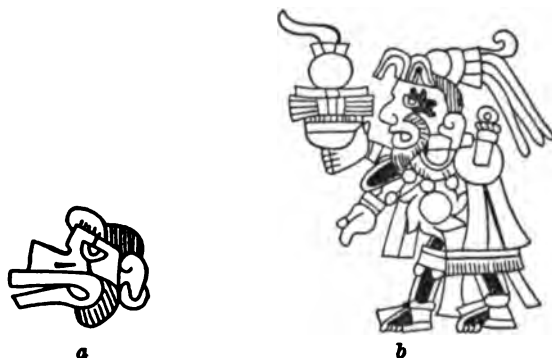


Fig. 10.—*a*, The Face of the Wind-god, showing down-curved mouth (Nuttall); *b*, a face with a curved mouth, a feature signifying old age

accurately the origin of the simpler forms of the day signs or not, at least enable us to recognize in the simpler forms many of the elements which make up the more complicated ones. A person, for example, who in examining a text encounters a form like *q*, figure 9, would certainly have some trouble in recognizing it as a form of the wind-god. Yet, by comparison with the more complicated figures it is possible to recognize in the simpler drawing the various elements which stand for the hair, the snout, and the beard. The proportions and the positions of the various parts merely are changed, while the identity of the figure remains unmistakable.

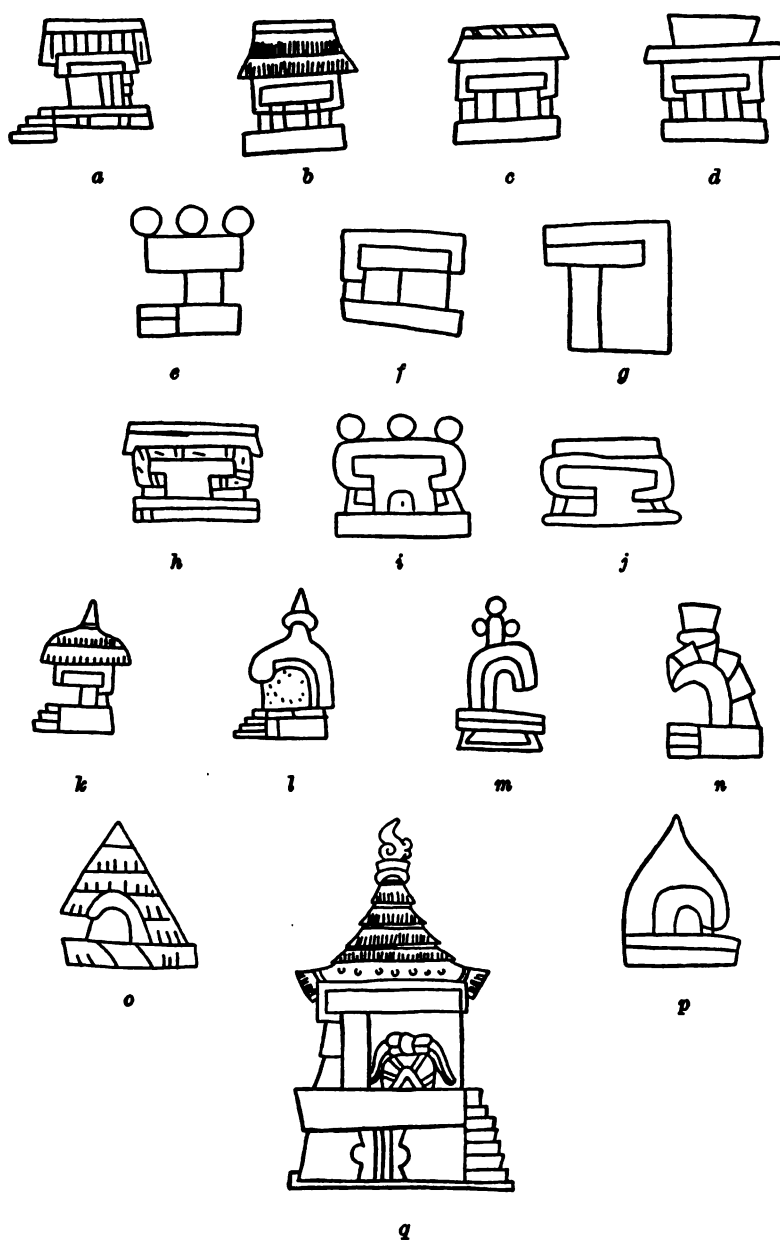


Fig. 11.—a-p, The Day-sign House (*Calli*); q, Realistic Drawing of a House

*House (Calli)**Sources of drawings (fig. 11):*

<i>a</i> , Vatican B,	p. 87	<i>i</i> , Vatican B,	p. 5
<i>b</i> , Nuttall (Zouche),	p. 56	<i>j</i> , Vatican B,	p. 4
<i>c</i> , Nuttall (Zouche),	p. 20	<i>k</i> , Fejervary	p. 30
<i>d</i> , Nuttall (Zouche),	p. 34	<i>l</i> , Vatican B,	p. 64
<i>e</i> , Fejervary,	p. 18	<i>m</i> , Vatican B,	p. 3
<i>f</i> , Nuttall (Zouche),	p. 31	<i>n</i> , Nuttall (Zouche),	p. 84
<i>g</i> , Aubin,	p. 1	<i>o</i> , Vatican B,	p. 71
<i>h</i> , Vatican B,	p. 8	<i>p</i> , Nuttall (Zouche),	p. 6

There are probably few day-signs in which the original forms are so completely obscured as in the case of the day-sign House. In its extreme form the day-sign appears merely as a hook (fig. 11, *m*), on a sort of a pedestal. The drawings in *k*, *l*, *m*, seem to show how this "hook" appearance evolves. *k* is a fairly convincing picture of a stone structure, I should say, with a thatched roof. If the evidence of the manuscripts is good for anything, this is the usual form of architecture in the Aztec or Plateau region, even for ceremonial edifices. Comparison with figure 11, *g*, brings out the principal features of such a structure. This latter represents, like *a*, *e*, and *k-p*, a cross-section through such a temple. To the right is the stairway leading up to the temple doorway. The doorway was made up of two uprights, either stones or timbers, with a third lying horizontally on them for a lintel (see fig. 11, *b-d*). According to Seler,⁶¹ these posts and lintels are of wood. The artist, it seems, wished to exhibit this doorway but was not equal to drawing it in perspective, so he compromised by dragging it around to one side, and representing only part of it; that is, with only one of the uprights in place. The front wall of the temple, or at least the position of this wall, he represented by a mere thin line. The thatching, however, is plainly and quite correctly represented, for the temples had, as here indicated, "hip" roofs, thatched on all four slopes. The ridge seems to have been elaborated into some sort of ornament. This is shown at the top of figure 11, *g*. On the base or pyramid of the structure we see an earthquake or *olin* symbol (for which see fig. 34). In figure 11, *k*, the roof is rather

⁶¹ 1900-1901, p. 10.

bulging or convex. In *l* the "peak" effect is reduced to a rudiment, and the drawing as a whole is more cursive in style. In figure 11, *m* and *n*, the artist seems to have had in mind not the original idea of a house, but such degenerate symbols of it as *l*, figure 11, which he permitted himself to reproduce in still more cursive fashion. In fact, in *m*, *l*, *n*, *o*, and *p* the likeness to a house is almost or entirely lost.

In *b*, figure 11, the front view of the house, or *calli*, is represented. We see here the thatched hip-roof, and the doorway of dressed stones or timbers. The artist, however, was apparently not equal to drawing a stairway in front view, so left it out. In *d* this doorway is drawn still more plainly. Here the artist seems to have tried to draw at the same time both the front and the gable ends of the roof, giving up, however, without being successful. In *g* the structure has been reduced to a remnant. We see here apparently a side view showing half of the door construction (compare *a*) and a line representing the back wall. Figure 11, *h-j*, represent this same front view of the structure, drawn, however, in cursive lines. The T-shaped inclosure seems to represent the outside line of the door construction, the opening having vanished. In this case, a study of the more complicated forms readily explains the simple ones such as *g*.

Lizard (Cuetzpalin)

Sources of drawings (fig. 12):

<i>a</i> , Nuttall (Zouche), p. 56	<i>g</i> , Vatican B,	p. 16
<i>b</i> , Nuttall (Zouche), p. 49	<i>h</i> , Fejervary,	p. 37
<i>c</i> , Nuttall (Zouche), p. 13	<i>i</i> , Vatican B,	p. 7
<i>d</i> , Vatican B,	<i>j</i> , Bologna,	p. 2
<i>e</i> , Nuttall (Zouche), p. 5	<i>k</i> , Aubin,	p. 19
<i>f</i> , Vatican B,	<i>l</i> , Vatican B,	p. 70
p. 64		

This is probably the least interesting of all the day-symbols, for the reason that it is nearly always carelessly drawn, and does not exhibit much variety at best. It is usually a sprawling figure with an uncertain number of legs straggling about, and a tail. I should say that the most characteristic thing in the drawing of the lizard is the loose-jointed way in which it sprawls on the page. One feature is noticeable in the drawings of lizard when

they can be examined in color. Half of the animal is normally red, the other half a sky blue. The division into two colors is represented by the line across the lizard's body in figure 12, *a*, *b*, *c*, *e*, and *g*. Seler's statement⁶² that "the lizard symbol is



Fig. 12.—The Day-sign Lizard (*Cuetspalin*)

normally blue" does not apply to all the manuscripts. The arrangement of colors would possibly indicate that one of those species is intended whose under-surface is bright blue. To economize time, perhaps, the artists painted the animal half reddish and half blue, without bothering to be more realistic. At least this is a possible explanation of the curious arrangement of colors.

⁶² 1900-1901, p. 10.

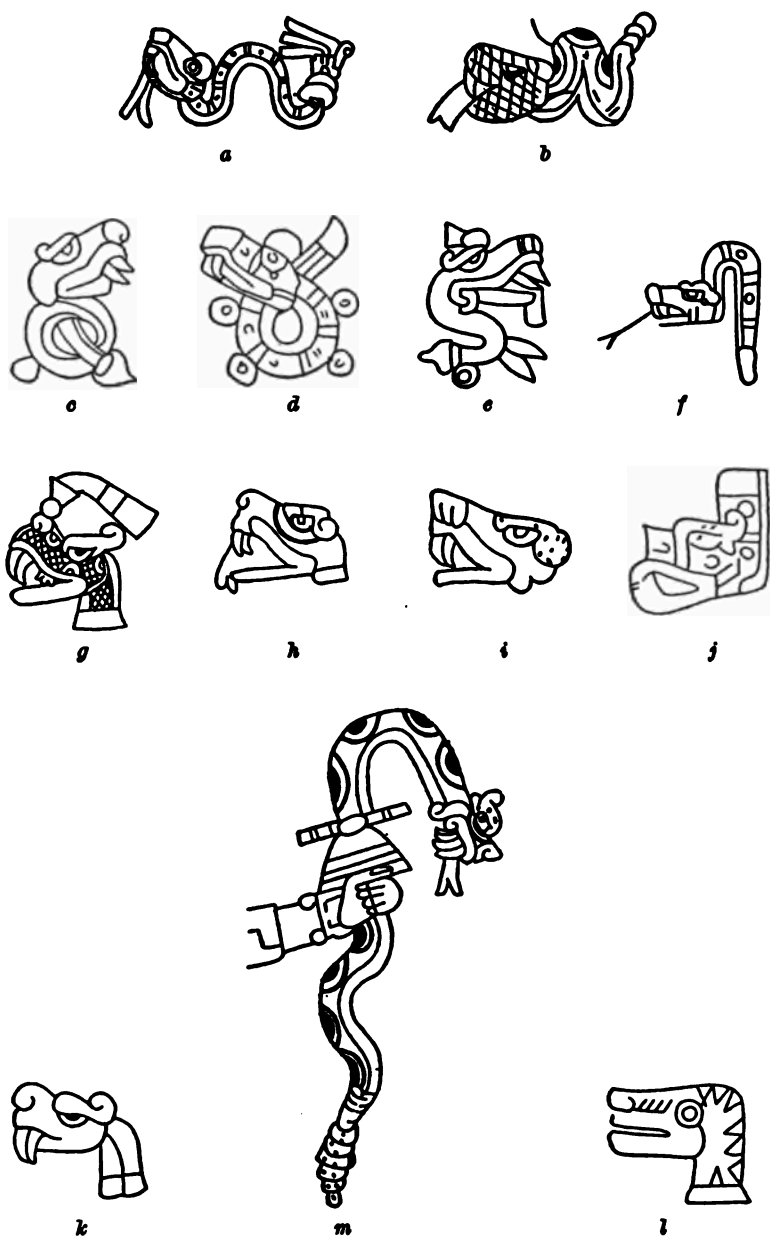


Fig. 18.—a-l, The Day-sign Snake (*Coatl*); m, Realistic Drawing of a Snake

*Snake (Coatl)**Sources of drawings (fig. 13):*

<i>a</i> , Borgia,	p. 5	<i>h</i> , Vatican B,	p. 67
<i>b</i> , Aubin,	p. 18	<i>i</i> , Vatican B,	p. 66
<i>c</i> , Bologna,	p. 7	<i>k</i> , Nuttall (Zouche),	p. 77
<i>e</i> , Bologna,	p. 4	<i>l</i> , Vatican B,	p. 71
<i>f</i> , Vatican B,	p. 74	<i>m</i> , Vatican B,	p. 45
<i>g</i> , Nuttall (Zouche),	p. 75		

Figure 13, *m*, represents a realistic drawing of a serpent chosen from a page in Vatican Codex B (manuscript 3773 in the Vatican library). The scene, or whatever it may be called, represents a human figure holding a serpent in its outstretched hand. The hand and part of the arm are reproduced in the present illustration, the rest of the human figure being omitted. The meaning of the device around the serpent just above the hand is not clear. The snake in this drawing, as in many of the day-signs, is plainly the rattlesnake. It is moreover quite accurately represented. The head exhibits, however, in place of one fang, a whole series of enormous ones projecting from the mouth. The plate over the eye is elaborated also into a sort of crest. It is interesting to note that figures of people holding snakes are fairly common both in Aztec and Maya art.⁶³ One can hardly help thinking in this connection of the well-known Snake Dance of the sedentary Indians of the southwestern part of the United States, in which performers dance holding serpents.

Many of the day-signs representing the serpent show the same characteristics as the realistic drawing just mentioned (for example, *a* and *b*, figure 13). The former of these two has an added feature, however, namely a plume at the end of the tail. Figure 13, *c* and *d*, represent the same serpent-figure knotted up in a sort of coil. In *f* the serpent is likewise complete, except that his rattles have degenerated to a mere button, and his outlines are not so conspicuously ophidian. In the remainder of the day-sign figures there is represented only the serpent's head. (Heads in general appear more frequently in the manuscripts as a day-sign than whole animals.) Many of these heads are thoroughly

⁶³ For the latter see Maudslay, 1889-1902, for example, vol. 4, pl. 33; Spinden, 1913, p. 49.

serpent in character. In one of them however (*g*, figure 13), we find a human nose ornament consisting of a "plug" with a flowing plume attached. In a few of the drawings the serpent head is very much debased. The one shown in *h*, for example, might well pass for the head of some other animal. In *j* we have only a jumble of lines, so formless that it is hard to recognize in them even such parts as the eye and the mouth. As a special instance of "debasement," attention is drawn to the figure shown in *l* which lacks the fang, though the fang is perhaps the most characteristic feature in the other serpent drawings.

Death (Miquiztli)

Sources of drawings (fig. 15):

<i>a</i> , Nuttall (Zouche), p. 79	<i>i</i> , Vatican B, p. 3
<i>b</i> , Borgia, p. 4	<i>j</i> , Fejervary, p. 33
<i>c</i> , Vatican B, p. 25	<i>k</i> , Nuttall (Zouche), p. 31
<i>d</i> , Vatican B, p. 96	<i>l</i> , Vatican B, p. 54
<i>e</i> , Nuttall (Zouche), p. 75	<i>m</i> , Bologna, p. 4
<i>f</i> , Vatican B, p. 52	<i>n</i> , Bologna, p. 2
<i>g</i> , Nuttall (Zouche), p. 13	<i>o</i> , Vatican B, p. 63
<i>h</i> , Nuttall (Zouche), p. 13	<i>p</i> , Nuttall (Zouche), p. 82

As already mentioned, the sign for death is a human skull. This is drawn in many cases with some degree of fidelity to the facts. It is, on the other hand, one of the symbols showing most marked distortion. Figure 15 shows its principal variations. *p* of this figure shows a realistic scene from an Aztec funeral ceremony. The practice seems to have been to expose the body until only the bones were left, which were then gathered and burned. We have here the representation of such a cremation scene. Piled upon a circular mat are the long bones tied up in a faggot, and surmounted by the skull. Sticking up on each side are decorated slats of wood. To one side stands the figure of a priest, with black face and black body-paint, usual in the case of people taking part in religious ceremonials. In his hands he holds a torch with which he ignites the pyre. The fire may be seen spreading to right and left in the drawing, and in the center there mounts a thick column of smoke. The drawing of the skull is the point of particular interest for us. There is con-

siderable realism in the sketch. The staring eye-orbit, the teeth and jaw, and the zygomatic arch are shown, though not perfectly. This type of drawing seems to have been the original model for the day-symbol Death.

I should like to emphasize some curious points in the Aztec artist's treatment of the lower jaw of the skull. Perhaps we can discuss this best by calling to mind the outlines of the jaw as it really is (fig. 14, *a*). We notice the teeth and chin on the one hand, and on the other the ascending "ramus" with the sigmoid notch at the top. On one side of this notch (to the left in the sketch) rises the coronoid process, and on the other, the hinge of the jaw, or "condyle." The Aztecs represent all of these features in their jaw-bones, especially the sigmoid notch and the hinge. The hinge itself they expand into a sort of circular tag, very prominent in all jaw figures. We can discuss the features of their jaw drawings to best advantage by citing places where the jawbone is drawn alone. For this we can turn to the "Grass" symbols (fig. 28, below), in which a human jawbone plays a conspicuous part. This is also shown in figure 14, *b*. Here especial attention is drawn to the conspicuous "hinge" portion.

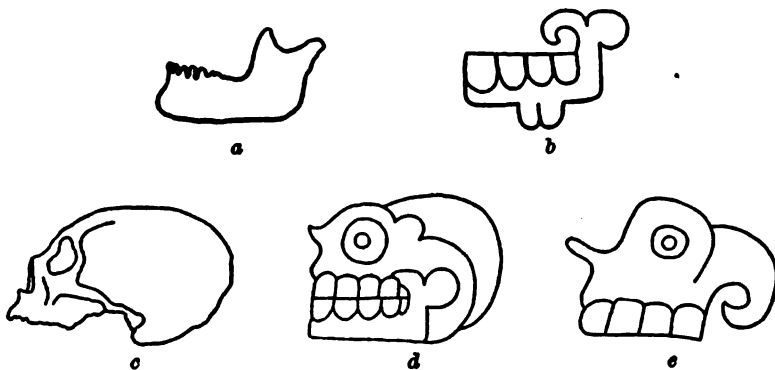


Fig. 14.—Curious Features of the Drawings representing the Skull, and a possible explanation of them

a, Drawing of an actual jaw-bone; *b*, a jaw-bone from a day-sign, Nuttall, p. 79; *c*, drawing of an actual skull (Chinook Indian, artificially flattened); *d*, Nuttall, p. 82, and *e*, Nuttall, p. 13, the skull as drawn in day-signs.

When we turn to the representations of the whole skull, with brain-case and jaw, we find the delineation very much affected by this fondness for emphasizing the hinge of the jaw. Figure 14, *c*, shows a sketch of an actual skull. An artificially flattened Chinook (Columbia River) cranium was chosen for the sketch, because it most nearly corresponds in outline to the Aztec drawing. We have around the eye a bony ridge which fuses below into the zygomatic arch, running across the sketch horizontally. All of these features can be recognized in the corresponding Aztec design (fig. 14, *d*), though rudely drawn in. I should like to emphasize in this latter figure (*d*) the fact that when the jaw is fitted by the artist into the skull, as shown in the dotted lines (actually following the original drawing), the flamboyant treatment of the maxillary condyle, or hinge process, leaves only the back part of the cranium showing. The occipital part of the cranium runs around the jawbone in the form of a hook. When the artist draws a skull without the jaw he preserves this hook, which leaves a space or socket where the jaw hinge would fit if it were present. This hook in skulls which are drawn without jaws becomes rudimentary and apparently loses its original meaning. I am otherwise at a loss to account for the curious hook which appears at the rear of many skull drawings (such as *e*, fig. 14). In the collection of skull drawings used as day-signs (fig. 15) many will be found (*h*, *o*) where the hook is quite meaningless. On the other hand, in some of them (*f*, *l*) the skull is in perfect shape for the reception of a jaw with an expanded hinge. We have in the drawings standing for the idea "Death" a case where, it seems to me, a very curious and puzzling feature of a day-sign is really explained by reference to an original graphic style of delineation.

Many minor variations will be noticed in the skull symbols. For one thing, the skull often has, as an ornament, a flint knife stuck in the nostril (fig. 15, *d*, *i*). This flint knife seems to degenerate in other cases to a mere point or lobe (*g*, *j*, *l*). The eye also becomes less realistic in certain drawings (*g*, *j*). In *k* we find a jaw with the usual hinge, but there is no corresponding notch in the skull. On several of the skulls are found lines suggesting a cap, possibly representing a painted design (*f*, *k*).

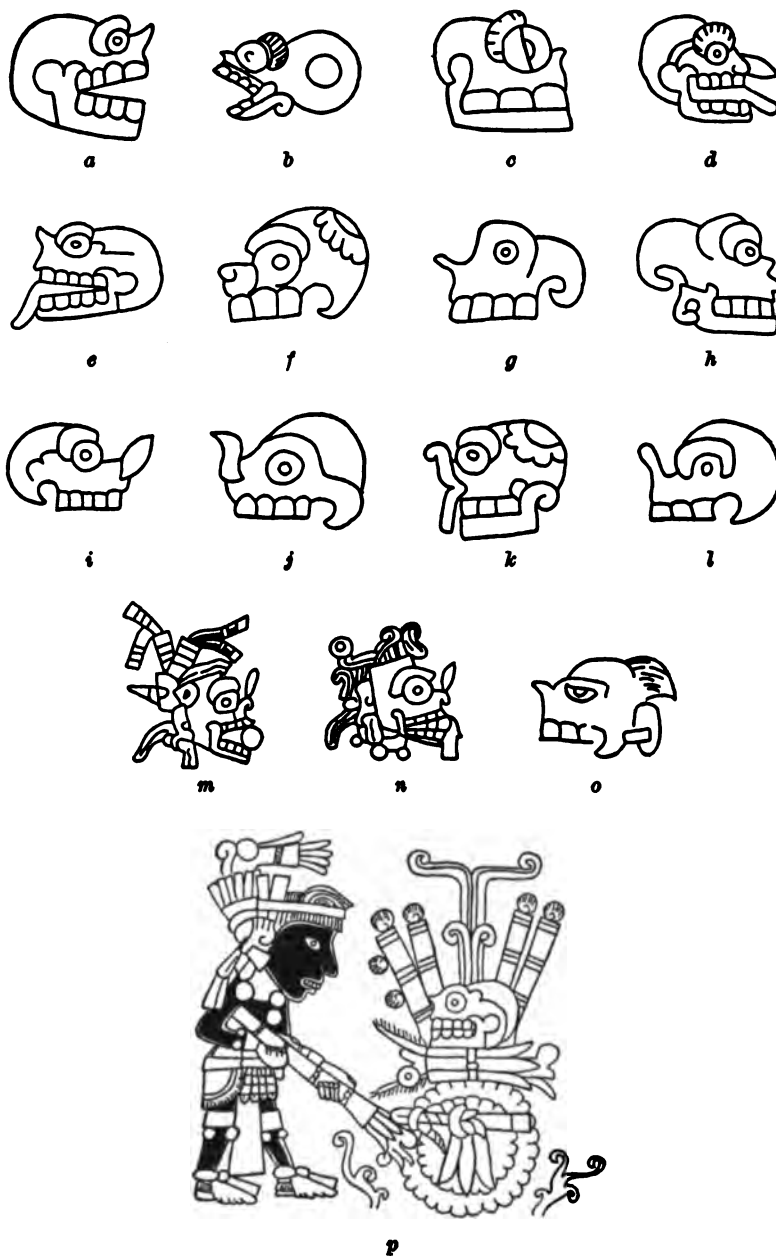


Fig. 15.—a-o, The Day-sign Death (*Miquistli*); p, Realistic Drawing of a Skull

The three last figures show a skull with ornament attached, prominent among them in each case an ear-ornament. The absurdity of an ear-ornament where there are no ears does not seem to strike the artist. The meaning of the curious tuft on the top of *o* is unknown.

Deer (Mazatl)

Sources of drawings (fig. 16):

<i>a</i> , Vatican B,	p. 64	<i>h</i> , Bologna,	p. 3
<i>b</i> , Nuttall (Zouche),	p. 26	<i>i</i> , Nuttall (Zouche),	p. 45
<i>c</i> , Nuttall (Zouche),	p. 49	<i>j</i> , Nuttall (Zouche),	p. 51
<i>d</i> , Vatican B,	p. 1	<i>k</i> , Fejervary,	p. 20
<i>e</i> , Nuttall (Zouche),	p. 48	<i>l</i> , Fejervary,	p. 36
<i>f</i> , Vatican B,	p. 67	<i>m</i> , Fejervary,	p. 13
<i>g</i> , Vatican B,	p. 89	<i>n</i> , Fejervary,	p. 26

Before discussing the illustrations which show the various forms of this day-sign (fig. 16), it will be well to get certain characteristics of the deer in mind. It is possible to form a conclusion as to which of the characteristics were most conspicuous in the minds of the native artists by considering which are most frequently in evidence in the delineations. The most important one is the long, slender muzzle (fig. 16, *a*, *b*, *c*, *d*, *e*, *g*, *i*, *j*, *n*). The next in importance is the antler. Another point which is emphasized in many drawings is the deer's large incisor teeth in the lower jaw, a trait which deer has, of course, in common with many other ungulates. The cloven hoof is also very strongly emphasized in some drawings. The realistic drawing at the bottom of the figure (fig. 16, *n*) exhibits most of the deer's actual peculiarities—muzzle, long ears, cloven hoofs, and short tail. Neither teeth nor antlers are represented in *n*. The former occur, however, very well drawn, in *b*, *c*, *d*, and *h*. I think the deer's antlers would be considered by ourselves his most distinctive possession. These antlers appear in *a*, *b*, *c*, and *d*. The illustrations are here arranged in descending order, exhibiting a successive deterioration of the antler. A series like this, whether it accounts for the development of the simpler forms or not (and it probably does not), enables us, at any rate, to identify these simpler forms. The little excrescence in *d* can, for example, be

identified as an antler by looking at the more fully delineated drawings in *a* and *b*. Perhaps the next drawing worthy of remark is *h*. Like many of the figures in the Bologna Codex from which it is taken, it represents a well-drawn head, with a tiny leg

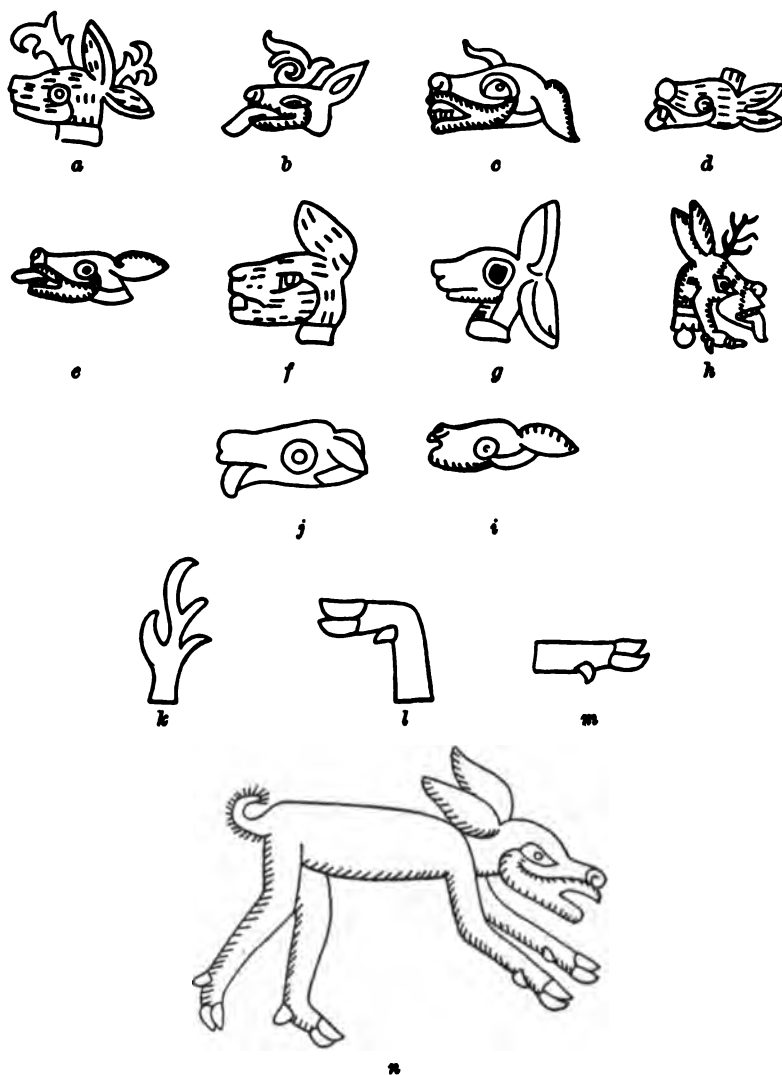


Fig. 16.—*a-m*, The Day-sign Deer (*Masatl*); *n*, Realistic Drawing of a Deer

attached. In this case the head has teeth in the *upper* jaw, and there might be some difficulty involved in identifying it as deer, if it were not for the presence of the antler. It will be noted that in the drawings of the deer the ears assume all sorts of shapes and configurations, from erect to drooping (fig. 16, *i*). We shall revert to this point in a moment. In *k* the artist drew not a deer but merely an antler, which passes as a symbol for the whole animal. In *l* and *m* he drew the cloven hoof merely.

Rabbit (Tochtli)

Sources of drawings (fig. 21):

<i>a</i> , Vatican B,	p. 61	<i>g</i> , Aubin,	p. 18
<i>b</i> , Fejervary,	p. 42	<i>h</i> , Vatican B,	p. 27
<i>c</i> , Vatican B,	p. 96	<i>i</i> , Vatican B,	p. 60
<i>d</i> , Nuttall (Zouche),	p. 80	<i>j</i> , Bologne,	p. 2
<i>e</i> , Vatican B,	p. 68	<i>k</i> , Borgia,	p. 8
<i>f</i> , Vatican B,	p. 49		

The Mexican artist, if he set about the task seriously, found no difficulty in drawing the rabbit in a very realistic fashion (witness figure 21, *k*). Here the animal is given a characteristic rabbit-posture—sitting on its haunches. The drawing moreover shows the elongated ears, the abbreviated tail, and the large and prominent incisors so characteristic of the rabbit in life. It is worth noting that the rabbit's big incisors are drawn in the upper jaw, in this respect offering a contrast to the drawings of the deer. In figure 21, *g*, teeth are entirely omitted. Certain curious tendencies, however, show themselves in the delineation of these teeth. In *a* they are conspicuous, but more like fangs than is really necessary. In *c* and *d* they are unduly prominent; in the latter figure, indeed, notably exaggerated. In *e* the two teeth have been fused into a sort of ribbon hanging out of the mouth. In *f* this ribbon takes on the appearance of a tongue, and may have been so interpreted by the artist. In *h* we have a tongue plainly shown, but it comes out over the upper teeth. How the artist reconciled this drawing with his knowledge of the facts cannot be explained. Figure 21, *j*, is another figure from the Bologne manuscript—a head with tiny legs attached. It might be worth

mentioning in connection with these two plates that some of the drawings of the deer are hardly to be distinguished from some of the pictures of the rabbit. Compare, for example, *g* of figure 16 with *f* of figure 21. The many points of identity between different drawings of these two figures deserves some further illustration.

We have said already that the most characteristic (or at least the most constant) thing in the deer drawings is the represen-

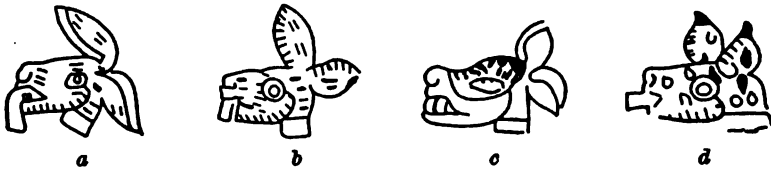


Fig. 17.—Day-signs representing Four Different Animals, all resembling the Deer

a, Deer, Vatican, p. 52; *b*, Rabbit, Vatican, p. 52; *c*, Dog, Vatican, p. 55; *d*, Ocelot, Vatican p. 71.

tation of the deer's long muzzle. Stated baldly, the top line of the deer's head is, in the pictures, concave. The rabbit, on the contrary, has a short, rounded snout, and the top line of his head is usually rounded over toward the nose. These traits are brought out clearly in the realistic pictures (fig. 16, *n*; fig. 21, *k*). It is now important to recognize that even such a constant distinction is often forgotten by the native artist. Figure 17, *a*, for example, represents the deer, but *b* of the same figure, with entirely similar outlines, represents not the deer but the rabbit. For the sake of comparison a picture of dog (*c*) and ocelot (*d*) are added, which, from the general outline, might be taken just as readily for rabbit or deer. In other words, there is no type to which the drawings of one animal necessarily conform.



Fig. 18.—Day-signs representing Four Distinct Animals, all resembling the Rabbit

a, Rabbit, Nuttall, p. 47; *b*, Deer, Vatican, p. 61; *c*, Dog, Vatican, p. 6; *d*, Ocelot, Nuttall, p. 23.

It is quite as easy to pick out a series of animals all drawn on the model of the rabbit. Figure 18 shows such a series. Here the same four animals, rabbit, deer, dog, and ocelot ("tiger") are represented, but they all have the form of the rabbit. The drawing of the deer in *b*, figure 18, would certainly be interpreted as the rabbit, except for the horns. If the deer's horns were always delineated in representations of the deer, there could, of course, be no confusion, but as often as not they are omitted.

The same point might be made about the ears of the two animals. The deer's ears are often erect, while the rabbit's often cling close to the head, or drop down. Figure 19, *a*, shows what



Fig. 19.—Day-signs representing the Deer and the Rabbit, showing the commingling of traits

a, Rabbit, Nuttall, p. 53; *b*, Deer, Vatican, p. 3;
c, Rabbit, Vatican, p. 57.

might be regarded as a very characteristic drawing of the rabbit. Figure 19, *b*, however, represents the deer, though the ears droop. On the other hand, *c* in this same figure, though the ears are erect, represents not the deer but the rabbit. In other words, I should like to make the point that statements such as those made by Seler,⁶⁴ to the effect that absolute criteria can be set up by which each figure can be recognized, are not borne out by a study of the manuscripts. If it were not for the occurrence of the day-signs in regular series, it would be quite impossible in many cases to distinguish one from another.



Fig. 20.—Day-sign Deer drawn with the Incisor Teeth belonging to the Rabbit
Vatican, p. 4.

To the zoologist the point most worthy of emphasis would be, I think, the fact already referred to, that the rabbit has large

⁶⁴ 1900-1901, pp. 9-16.

incisor teeth in his upper jaw, while the deer has them only in his lower jaw. This is associated, of course, with the distinction

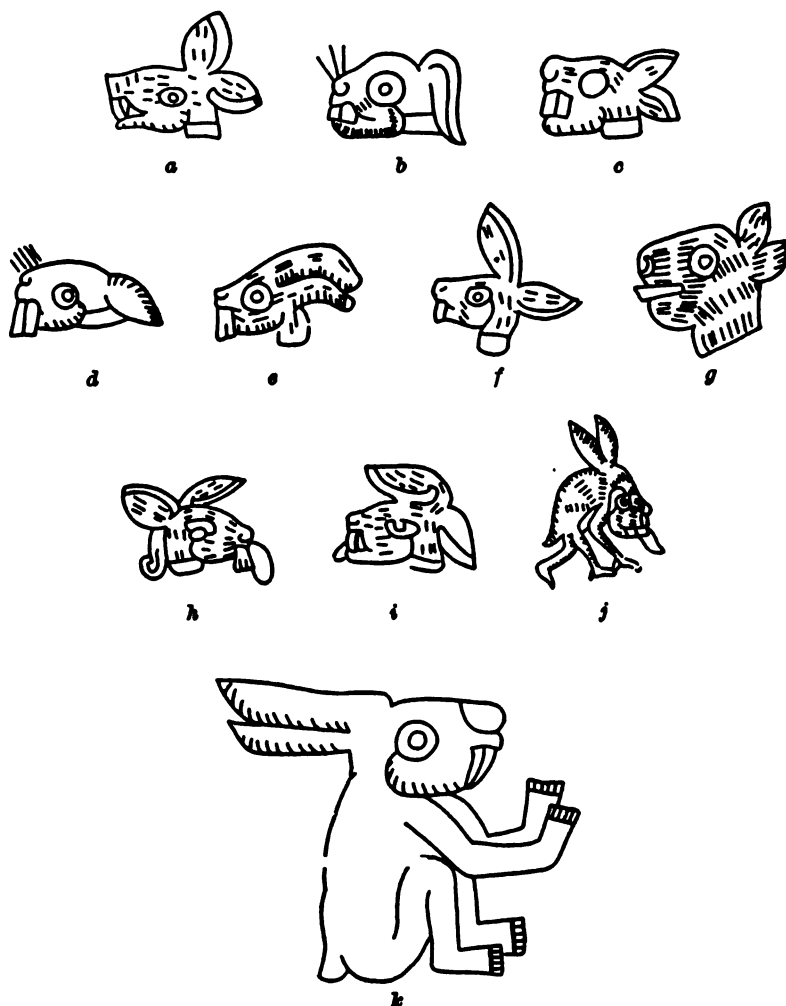


Fig. 21.—*a-j*, The Day-sign Rabbit (*Tochtli*); *k*, Realistic Drawing of a Rabbit

between rodents and ungulates. While this difference is noted by the artists in most of the figures, we find occasional breaches of the rule. For example, in figure 20 we find a representation

of the deer, with the large upper incisors proper to the rabbit. The point here discussed will come up again in connection with some of the other day-signs.



Fig. 22.—a-s, The Day-sign Water (*Atl*)

Water (Atl)

Sources of drawings (fig. 22):

a, Nuttall (Zouche), p. 44	k, Fejervary, p. 40
b, Nuttall (Zouche), p. 25	l, Vatican B, p. 6
c, Nuttall (Zouche), p. 35	m, Fejervary, p. 17
d, Nuttall (Zouche), p. 53	n, Nuttall (Zouche), p. 44
e, Nuttall (Zouche), p. 66	o, Nuttall (Zouche), p. 9
f, Bologne, p. 6	p, Nuttall (Zouche), p. 76
g, Fejervary, p. 42	q, Nuttall (Zouche), p. 81
h, Nuttall (Zouche), p. 18	r, Nuttall (Zouche), p. 8
i, Aubin, p. 20	s, Nuttall (Zouche), p. 32
j, Vatican B, p. 24	

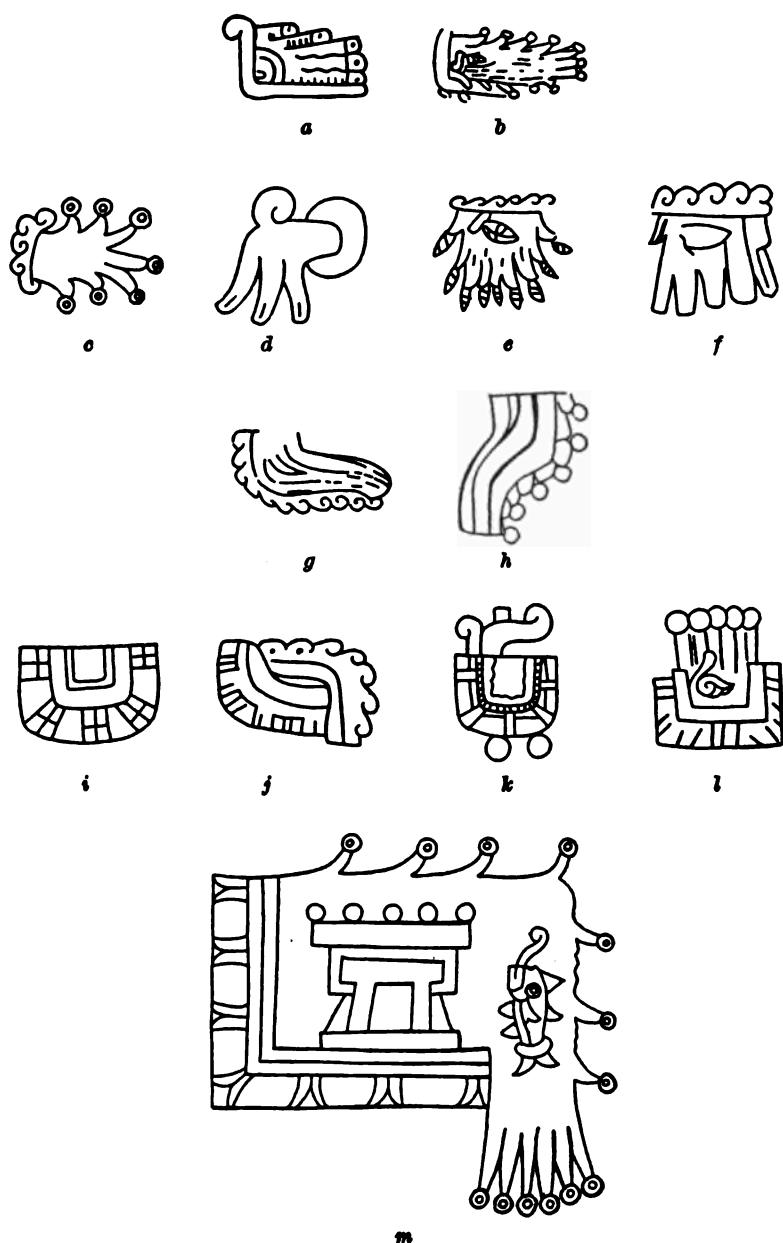


Fig. 23.—a-l, The Day-sign Water (Atl), additional forms;
m, Realistic Drawing of a Lake

Sources of drawings (fig. 23):

<i>a</i> , Vatican B,	p. 71	<i>h</i> , Vatican B,	p. 54
<i>b</i> , Vatican B,	p. 47	<i>i</i> , Nuttall (Zouche),	p. 58
<i>c</i> , Nuttall (Zouche),	p. 72	<i>j</i> , Nuttall (Zouche),	p. 13
<i>d</i> , Fejervary,	p. 35	<i>k</i> , Bologna,	p. 30
<i>e</i> , Vatican B,	p. 49	<i>l</i> , Vatican B,	p. 70
<i>f</i> , Vatican B,	p. 25	<i>m</i> , Nuttall (Zouche),	p. 74
<i>g</i> , Vatican B,	p. 4		

There is a rather greater variety of forms of the symbol "Water" than is the case with most day-signs (figs. 22 and 23). The most graphic of these represents a dish of some sort, full of water, with foam or waves on the surface and a shell in the center. For such a drawing the reader is referred to figure 22, *a*. The same details come out in the scene or landscape at the bottom of figure 23 (*m*). The principal thing in this latter representation is a lake with waves on top, a river flowing out of it, a fish in its depths, and on the shore a temple. The scrolls representing the ripple or foamy surface of water are a very common feature of the drawings.

Turning now to some of the variations of the water drawing, we find a good deal of shifting and lack of uniformity of design. In some of the designs, as might be expected, the waves are lacking, others lack the shell, and others lack the containing vessel mentioned above as very common. The drawings in the figure are arranged in order according to the degree of completeness with which these vessels or containers are delineated. This method of arrangement, as before, serves merely for convenience in identifying the simpler drawings. It is interesting to see how rude and merely suggestive of the original elements some of the figures are. Figure 22, *r*, for example, has lost all external resemblance to a dish full of water; the dish has been reduced to a rudiment, and the water has taken on the appearance of a solid object of some sort. Comparison with the more perfect representations (figure 22, *a-r*) will show, nevertheless, that all the essential features of the graphic drawing are present. In figure 23, *c*, the containing dish, which no longer actually "contains" the water, is itself bordered with water or wave symbols. In the case of some symbols we see the whole drawing turned upside down. This has happened in figure 23, *e*, in which the

water seems to stream down from a sky. Figure 23, *f*, is a still more extreme case of the same thing. Even in this latter case, however, the original dish and shell may be recognized. We have finally, in the water symbol as shown in figure 23, *h*, merely a formless collection of lines.

A few curiosities come to light in making such a collection of water-symbols. For example, the dish and the escaping water take in figure 22, *p*, almost exactly the form of an animal's head with an eye, a fang (the leg of the pot or dish originally), and two ears. The scroll designs representing the wavy or foamy surface of water take on at times the forms of other objects. Thus in figure 22, *e*, we have springing up on the surface of the water a semi-circular knob. In figure 22, *f*, this excrescence takes on the appearance of the "Flower" symbol (see fig. 32, below). In figure 22, *h*, it assumes another and very different form, but one unlike any object the present writer can name. In figure 23, *k*, the excrescence becomes almost exactly like the Aztec symbol for smoke. In figure 23, *l*, finally, we have the vessel under the shell clearly drawn, but the water has shot up out of this vessel and hangs in the form of disks above it.

The form shown in figure 23, *i*, is something of a puzzle. There is scarcely any resemblance to water left, but the curious patterns around the edge correspond to the marks around the margin of the water in the realistic picture illustrated in *m*, figure 23. Identification of the various water-symbols is made easier by the fact that in the manuscripts the part representing the water itself is normally painted blue. This aid to identification is of service only in the case of colored reproductions of the original manuscripts.

Dog (Itzcuintli)

Sources of drawings (fig. 24):

<i>a</i> , Nuttall (Zouche), p. 57	<i>i</i> , Vatican B, p. 90
<i>b</i> , Bologne, p. 1	<i>j</i> , Fejervary, p. 44
<i>c</i> , Nuttall (Zouche), p. 79	<i>k</i> , Fejervary, p. 36
<i>d</i> , Nuttall (Zouche), p. 82	<i>l</i> , Bologne, p. 8
<i>e</i> , Nuttall (Zouche), p. 3	<i>m</i> , Vatican B, p. 68
<i>f</i> , Vatican B, p. 66	<i>n</i> , Bologne, p. 3
<i>g</i> , Vatican B, p. 51	<i>o</i> , Nuttall (Zouche), p. 72
<i>h</i> , Fejervary, p. 41	



Fig. 24.—a-n, The Day-sign Dog (*Itscuintli*); o, Realistic Drawing of a Dog

Comment has already been made on the fact that the symbols for Dog, Rabbit, Deer, and Ocelot are so drawn as to be very much alike. Perhaps the most distinguishing feature of the dog head, as it is usually drawn, is a black patch around the eye. This patch appears in figure 24, *b, c, d, e, h, n,* and *o*. The fact must however be noticed that *ocelot* ("Tiger") is sometimes represented with this patch (fig. 25, *a*). Seler⁶⁵ says that a characteristic thing about the dog, drawn in the manuscripts, is a "double-pointed" black patch about the eye. The present figure will show at least that this patch is not uniformly "double-pointed." Another trait usually found in the delineation of the dog is a sort of lip (fig. 24, *a, n, o,* etc.). This lip is however often represented in the drawings of other animals. (Compare the tiger and deer drawings shown in figure 25, *a,* and *b.*) In figure 24, *o,* and appearing in a good many places in the



Fig. 25.—Various Day-signs, showing confusion or commingling of traits

a, Ocelot, with an eye-patch usually characteristic of the Dog (Vatican B, p. 66); *b*, Ocelot, resembling the Dog in teeth, lips, and form (Nuttall (Zoche), p. 80); *c*, a drawing of the Deer with the lip which is characteristic of the Dog (Vatican B, p. 69).

manuscripts, is a sort of beard or fringe under the dog's chin. Seler makes the additional remark that there were two varieties of dog known to the Aztecs, and represented in the manuscripts—one brown, and one spotted. Inspection of the present plate makes one wonder whether they did not have some custom of clipping their dog's ears. In *c, d, g, h, i, j, l,* and *m* of figure 24, the dog is represented with a highly ornamental ear-flap. Seler speaks of this ear as "mangled," and calls attention to the very interesting fact that dogs are represented in this way in the Dresden Maya Codex.⁶⁶ He is the only animal so represented.

⁶⁵ 1900-1901, p. 11.

⁶⁶ *Loc. cit.*

In *k* of figure 24, we have nothing left of the dog, except this highly ornamented ear. Figure 24, *n*, is another of the Bologne Codex figures, with a tiny leg attached. It will be seen that the artist in *o*, figure 24, was unable to draw a dog's hind limb properly. The animal has a leg quite like that of a human being. This is true of most of the animals the Aztecs and the Mayas tried to draw.⁶⁷ The drawings of the dog supply interesting cases of convergence in the representation of animals. The prominent and sharp teeth usually shown in the dog figures are often represented in drawings of the rabbit.

Monkey (Ozomatli)

Sources of drawings (fig. 27):

<i>a</i> , Nuttall (Zouche), p. 72	<i>h</i> , Vatican B, p. 8
<i>b</i> , Nuttall (Zouche), p. 79	<i>i</i> , Nuttall (Zouche), p. 8
<i>c</i> , Nuttall (Zouche), p. 44	<i>j</i> , Fejervary, p. 42
<i>d</i> , Borgia, p. 3	<i>k</i> , Vatican B, p. 66
<i>e</i> , Nuttall (Zouche), p. 4	<i>l</i> , Fejervary, p. 20
<i>f</i> , Nuttall (Zouche), p. 38	<i>m</i> , Fejervary, p. 20
<i>g</i> , Vatican B, p. 3	<i>n</i> , Nuttall (Zouche), p. 76

The most nearly characteristic features of the drawings of the monkey are: (1) a face with an elongated snout; (2) a stiff crest of hair; and (3) a conspicuous ear-ornament. The first two are elements derived from the actual characteristics of the Central and South American monkeys. The presence of the ear-ornament can be explained, as is the case with many other features of the day-signs, on the ground that they are borrowings from human articles of dress or adornment. Probably such borrowings are due, at least in part, to the vague feeling which is quite common among savages that all animals are human beings essentially, with a power which enables them, for their own purposes, to assume a different likeness externally. Other creatures in the day-signs are represented with ear-ornaments similar to the one exhibited on Monkey. Compare, for example, with the present designs, the drawings representing King-vulture (fig.

⁶⁷ See Water-monster, Deer, Rabbit, and Ocelot in the present paper, and, for example, the splendid figure of a jaguar from Chichen Itza in Spinden, 1913, pl. 29, fig. 7.

26 and fig. 33, *a, b, c, f, h, k*) and Wind (fig. 9). In view of this fact, it is somewhat surprising to find that in one or two places (see fig. 27, *l* and *m*) the monkey is represented vicariously by his ear-ornament, and nothing else. This ornament, although it stands for the day-sign Monkey, is in nowise to be distinguished from the ornament worn by the King-vulture (fig. 26). If it were not for its position in a series, then, there would be no way of telling whether the drawing shown in figure 27, *l*, should be interpreted as Monkey or as something else.



Fig. 26.—Drawing of a Day-sign representing the King-vulture wearing an ear-ornament, the latter not to be distinguished from those which represent or typify the Day-sign Monkey.

(Fejervary, p. 37.)

The crest of the monkey in the present figure assumes several different forms. Compare, for example, *a* with *j*. In some cases the crest looks quite like the tuft of feathers surmounting the head of the eagle (see figure 32). The realistic drawing of the monkey (fig. 27, *n*) shows that all of these symbols representing the monkey follow the original idea very closely.

Grass (Malinalli)

Sources of drawings (fig. 28):

<i>a</i> , Nuttall (Zouche), p. 79	<i>j</i> , Borgia, p. 26
<i>b</i> , Nuttall (Zouche), p. 79	<i>k</i> , Borgia, p. 67
<i>c</i> , Nuttall (Zouche), p. 19	<i>l</i> , Aubin, p. 17
<i>d</i> , Vatican B, p. 78	<i>m</i> , Aubin, p. 12
<i>e</i> , Nuttall (Zouche), p. 40	<i>n</i> , Bologne, p. 6
<i>f</i> , Vatican B, p. 68	<i>r</i> , Borgia, p. 50
<i>g</i> , Nuttall (Zouche), p. 24	<i>o</i> , Bologne, p. 3
<i>h</i> , Vatican B, p. 16	<i>p</i> , Nuttall (Zouche), p. 71
<i>i</i> , Borgia, p. 6	

This is, in certain respects, the most curious of all the Aztec day-symbols, for the reason that it is, in its usual form, a combination of three elements that seem to have no logical connection with each other—a human jawbone, an eye, and a clump of

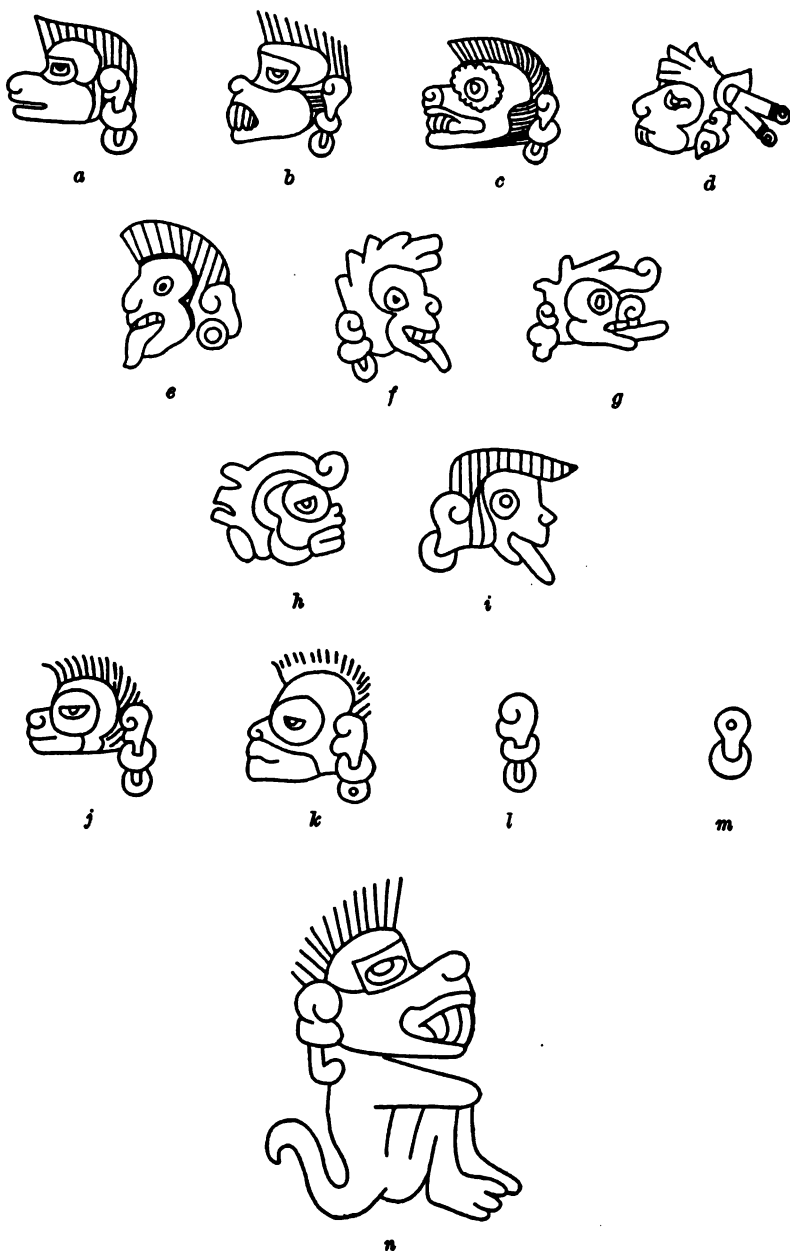


Fig. 27.—a-m, The Day-sign Monkey (*Ozomatli*); n, Realistic Drawing of a Monkey

grass. Peñafiel,⁶⁶ quoted by Seler,⁶⁷ calls this grass *zacate del carbonero* (because charcoal-burners or "carboneros" make sacks of it) and states that the Aztec name *malinalli*, or "twisted," is

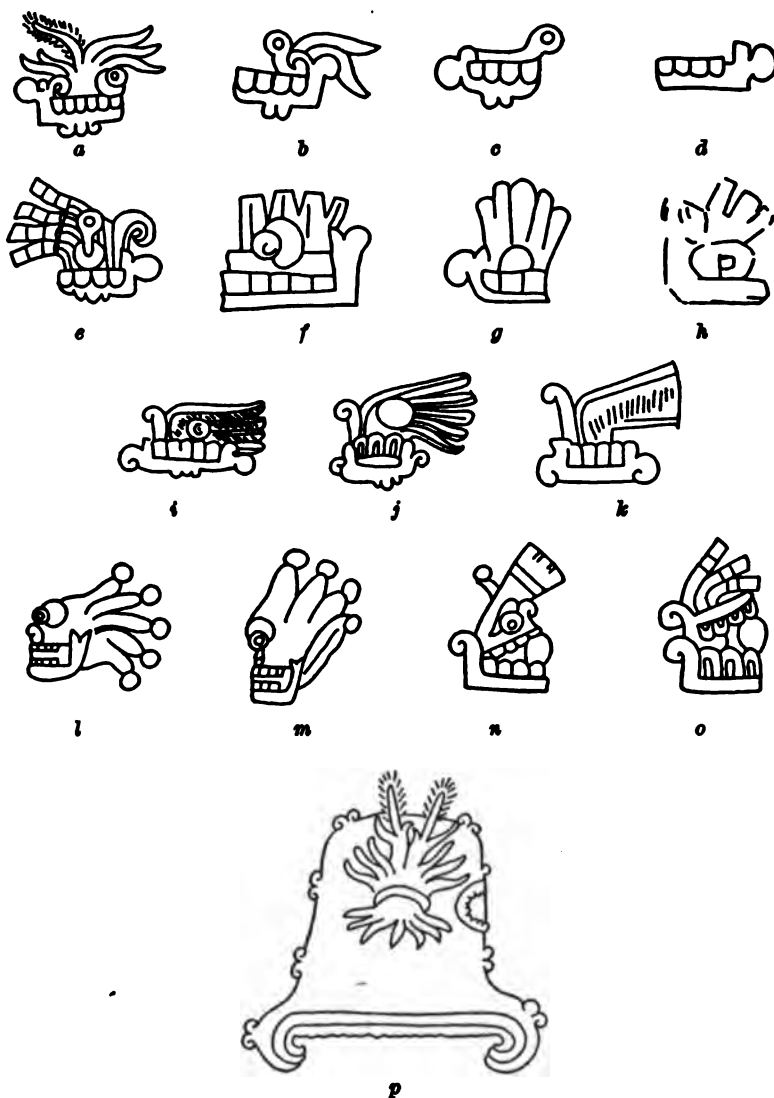


Fig. 28.—a-o, The Day-sign Grass (*Malinalli*); p, Realistic Drawing of a Clump of Grass

⁶⁶ 1886.

⁶⁷ 1900-1901, p. 12

derived from the fact that the Aztecs were accustomed, as they are still, to "twist" it into ropes and pack-straps. Such etymologies are, of course, always open to suspicion. What the specific botanical name of the *zacate* grass is, I have not been able to learn. A realistic picture of a clump of this grass on the side of a mountain, with leaves, seed-stalks, and roots, is given in figure 28, *p*.

The first-mentioned element in the combination, the jawbone, is usually quite realistically represented. It is ordinarily drawn in profile, with the teeth in place, and with the sigmoid notch at the top of the ascending ramus easily distinguishable. There is, however, a peculiar and exaggerated representation of the condyle or hinge already referred to in connection with the day-sign Death (see page 349). Along the middle of the bottom edge of the bone there is a curious collection of humps, either two or three. Mrs. Nuttall says somewhere that these humps were put wherever the artist wishes to express the idea of "roughness." The basis of this idea, and the reason why the artist should wish to indicate roughness on the bottom edge of a jawbone, are alike uncertain. Seler⁷⁰ suggests a "reason" (such as it is) for the association of the grass with a jawbone, namely, that the bone signifies that the grass is dry.

The first four drawings (fig. 28, *a*, *b*, *c*, and *d*) give what might be considered four stages in the degeneration of the complete sign. In *a* we have jaw, eye, a clump of leaves, and a seed-stalk. In *b* we have, besides the jaw, two leaves and the eye; in *c*, the jaw and eye with no grass at all; and in *d*, plain jaw. Yet the position of each of the last three signs in different series makes it absolutely certain that they all represent the day-sign Grass. It is rather curious to find a bare jawbone standing as a symbol for vegetation, even vegetation of the driest kind.

Figure 28, *e*, *f*, *g*, and *h*, show a curious treatment of the grass element. In the latter (*h*) all resemblance to grass is lost. It is worth observing that in *e*, figure 28, the eye and eye-stalk together take on an appearance identical with the ear-ornament in the preceding figure (fig. 27). In the four figures just men-

⁷⁰ 1900-1901, p. 12.

tioned (*e*, *f*, *g*, and *h*, figure 28), there is progressive degeneration of the eye-stalk, which in the last figure named is only an empty bulb.

Figure 28, *i*, *j*, *k*, show the jaw in front view. The grass in each of these cases receives a curious treatment, reaching a climax in *k*, where it looks more like a phonograph horn than anything else that could be readily named. The eye, which is quite realistic in figure *j*, vanishes completely in *k*.

In *l*, *m*, *n*, *o*, the eyes are represented in combination with an additional feature, an upper jaw. In *n* we have a curious thing. The whole drawing assumes the form of a complete face with all its features, holding a ball in its gaping jaws. Flourishing around above this face we see the original eye and eye-stalk, with which we started in *a* of figure 28. The meaning of the pair of jaws biting on an object is a complete puzzle to the present writer.

Cane (Acatl)

Sources of drawings (fig. 29):

<i>a</i> , Nuttall (Zouche), p. 9	<i>j</i> , Nuttall (Zouche), p. 14
<i>b</i> , Nuttall (Zouche), p. 62	<i>k</i> , Vatican B, p. 47
<i>c</i> , Nuttall (Zouche), p. 1	<i>l</i> , Vatican B, p. 5
<i>d</i> , Nuttall (Zouche), p. 5	<i>m</i> , Nuttall (Zouche), p. 56
<i>e</i> , Vatican B, p. 65	<i>n</i> , Vatican B, p. 62
<i>f</i> , Vatican B, p. 51	<i>o</i> , Aubin, p. 8
<i>g</i> , Vatican B, p. 49	<i>p</i> , Vatican B, p. 60
<i>h</i> , Nuttall (Zouche), p. 32	<i>q</i> , Vatican B, p. 3
<i>i</i> , Nuttall (Zouche), p. 40	<i>r</i> , <i>Borgia</i> , p. 50

The symbols for the idea Cane (fig. 29) all represent, as remarked in connection with figure 1, the cane shafts of javelins. The first ten represent single missiles, the remaining seven represent bunches of several at once. Seler⁷¹ calls the object in question an arrow. I am inclined to think that in most cases the object is a javelin (see fig. 29, *r*). It occurs universally in the hands of persons who in the other hand brandish the spear-thrower, or *atlatl*⁷² as in the present figure. Examples of this combination are too numerous to quote. A device exactly similar

⁷¹ 1900-1901, p. 12.

⁷² Consult Nuttall, 1891.

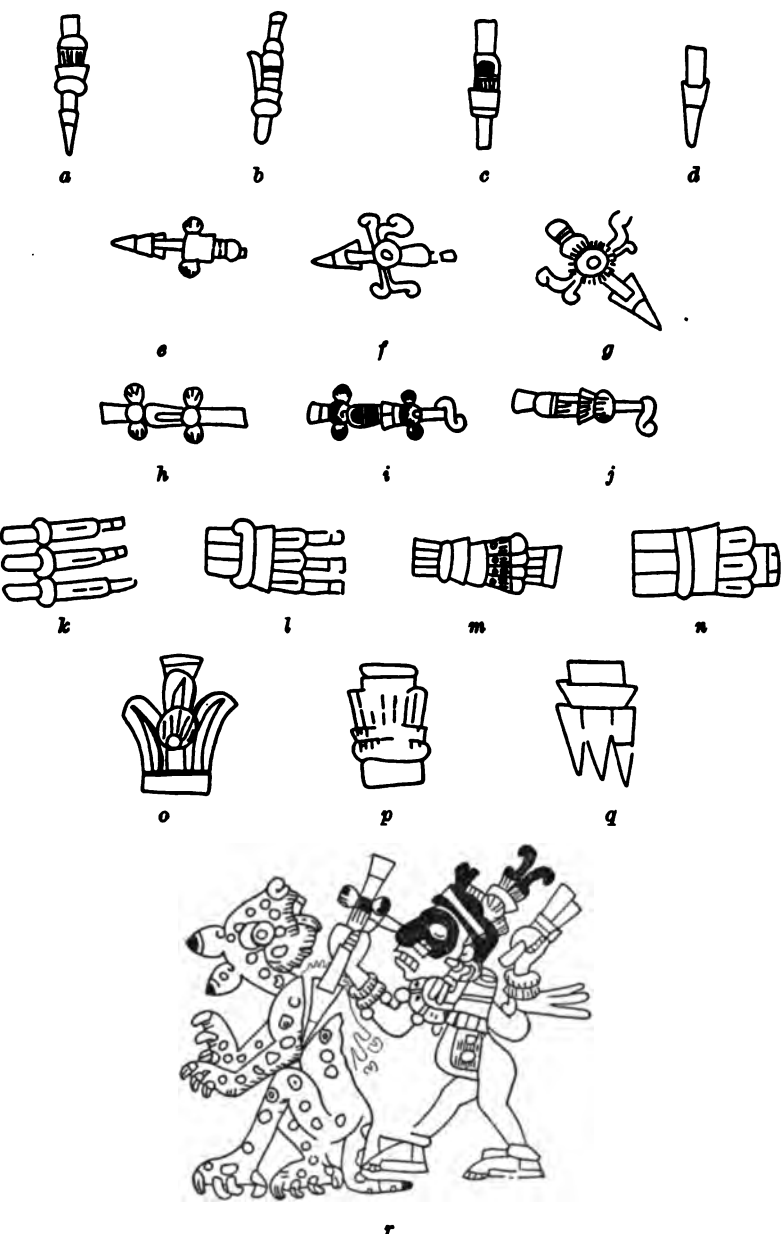


Fig. 29.—a-q, The Day-sign Cane (*Acatl*); r, Realistic Drawing of a Cane-shafted Javelin

to the missile we are discussing occurs in one place (Codex Nuttall—Zouche manuscript)⁷³ grasped in a warrior's hand along with a bow. The typical arrow, which appears in many places in Vatican Codex A (3738), is nearly always represented with a wooden fore-shaft, and has a series of barbs on one side. This arrow is not the weapon which occurs as a day-sign. The pictured accounts of Aztec combats⁷⁴ represent the spear-thrower, instead of the bow, as the important and universal weapon. In the mere interest of accuracy, the device which symbolizes the idea Cane ought to be referred to as a javelin, not as an arrow.

It is noticeable that in many of the drawings of the present figure, the javelin shaft is represented, while the head or point is omitted. Apparently, this point was of flint or obsidian, and therefore of no particular interest to the artist who was writing out a symbol for Cane merely. Those representations which are made up of several javelins together are often hard to recognize (see fig. 29, *e, m, n, o, p, q*), and, it must be added, are much more frequent in day-sign art than the others. The very badly drawn figure from the Aubin Codex (fig. 29, *o*) has more than a passing resemblance to one of the symbols (fig. 37, *d*) for Flower. The meaning of the sunbursts around the javelins in fig. 29, *f* and *g*, is unknown to the present writer, unless they represent missiles with blazing balls of cotton attached for setting fire to assaulted villages. The drawings in question certainly resemble the Aztec way of representing smoke. The resemblance of some of the groups of these javelins to the symbol for Flower supplies another instance of convergence.

Ocelot (Ocelotl)

Sources of drawings (fig. 31):

<i>a</i> , Nuttall (Zouche), p. 48	<i>i</i> , Bologne,	p. 2
<i>b</i> , Nuttall (Zouche), p. 71	<i>j</i> , Vatican B,	p. 80
<i>c</i> , Nuttall (Zouche), p. 53	<i>k</i> , Bologne,	p. 8
<i>d</i> , Nuttall (Zouche), p. 54	<i>l</i> , Vatican B,	p. 4
<i>e</i> , Nuttall (Zouche), p. 51	<i>m</i> , Fejervary,	p. 32
<i>f</i> , Vatican B,	<i>n</i> , Fejervary,	p. 36
<i>g</i> , Vatican B,	<i>o</i> , Nuttall (Zouche),	p. 82
<i>h</i> , Bologne,		p. 7

⁷³ P. 10.

⁷⁴ See Bandelier, 1892 *a*, for description, and references to the literature.

A certain impropriety is involved in applying to this Aztec day-sign, as is usually done, the name "tiger," an animal unknown in the New World. The use of the term has become, in a way, a tradition. The animal in question is the ocelot, in Aztec *ocelotl*, misnamed, like many American institutions, by the Spaniards. These latter called the creature *el tigre* as a mere convenience. He is characterized in the drawings by a cat-like form, with talons and sharp teeth, and a handsomely spotted skin. It might be supposed that the spots of the skin would be the most characteristic feature in the delineation of this animal. As a matter of fact, this trait is often represented in a very spirited fashion (fig. 31, *o*). These spots occur not only on the realistic drawings but on many of the day-signs: for example, in *a* of figure 31. Like all other characteristics, however, they do not appear consistently by any means. Thus in *b* the number of spots has been reduced to two; in *c* of the same figure, but one is left; in *d*, the spots have vanished entirely, and the animal head there represented is hardly to be distinguished from that of the dog, or even the rabbit as represented elsewhere. Curiously enough, there is at least one case in the manuscripts where the day-sign Rabbit is actually represented with spots (fig. 30). We have here



Fig. 30.—The Day-sign Rabbit represented with the Spots characteristic of the Ocelot

(Nuttall, p. 77)

still another illustration of the rule that a given animal's most conspicuous characteristic may, in day-sign art, be lost or loaned to some other creature. It is perhaps worth noting that in *g*, figure 31, we have a drawing which, though really representing the tiger, has an outline that might serve with equal propriety for the deer. It is considerably more like the deer than are some of the deer figures (see fig. 16). The drawing appearing in *j* of figure 31 (reproduced from fig. 24, *b*), looks, on the other hand, like the drawings of the dog.

Another feature of the "tiger" drawings which is apparently realistic, is the black tip of the ear (see fig. 31, *o*). It appears not only in the realistic drawing but in many of the day-signs

as well (fig. 31, *c, d, e, g, h, i, j, k*). The drawing lettered *h* in this figure is one of the peculiar heads with tiny legs appended to it which is characteristic of the Bologna Codex. In addition to the legs, the animal in this drawing is provided with a nose-



Fig. 31.—*a-n*, The Day-sign Ocelot (*Ocelotl*); *o*, Realistic Drawing of an Ocelot

plug. In *i* of figure 31 the animal is represented with two erect ears in the proper place, but hanging down the back of his head is pictured a very complicated ear-ornament. The animal appears also to have some sort of a head-dress. The nose ornament appears also in figure 31, *m*. In *l* the idea "Ocelot" is symbolized by the drawing of an ocelot's paw merely, and in *n* by an object which comparison with the other drawings will show to be an ocelot's ear.

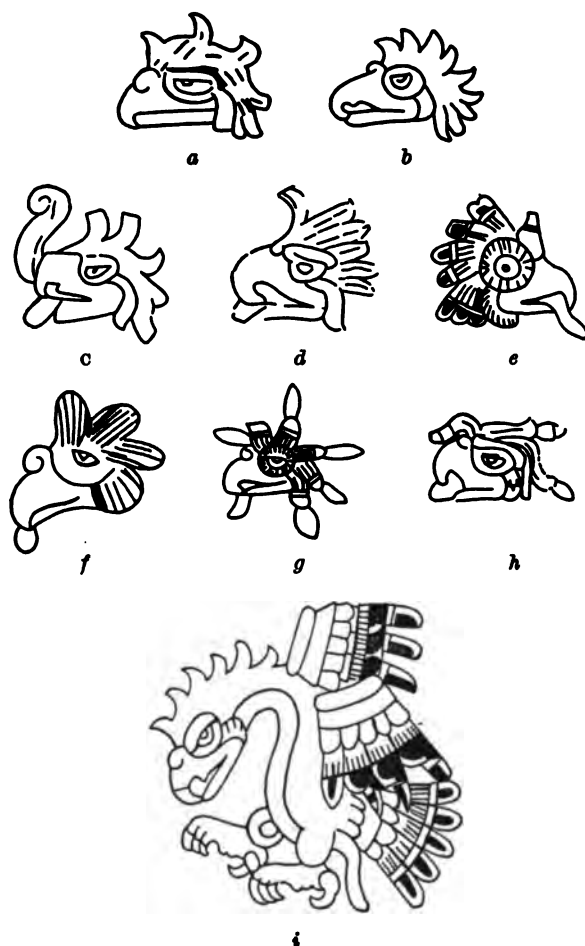


Fig. 32.—*a-h*, The Day-sign Eagle (*Quauhtli*); *i*, Realistic Drawing of an Eagle

*Eagle (Quauhtli)**Sources of drawings (fig. 32):*

<i>a</i> , Vatican B,	p. 92	<i>f</i> , Nuttall (Zouche),	p. 23
<i>b</i> , Nuttall (Zouche),	p. 47	<i>g</i> , Nuttall (Zouche),	p. 32
<i>c</i> , Vatican B,	p. 50	<i>h</i> , Vatican B,	p. 2
<i>d</i> , Vatican B,	p. 62	<i>i</i> , Nuttall (Zouche),	p. 69
<i>e</i> , Nuttall (Zouche),	p. 6		

The various drawings of the eagle are markedly realistic. The drawing at the bottom of the figure is taken from a section of the Codex Nuttall which represents an eagle in combat with an ocelot. The characteristics of the bird usually chosen for emphasis in the day-signs are his hooked beak, and a crest of feathers on his head. The beak occurs in practically all the drawings, not only in those illustrated here. In a few cases there is some degeneration. Thus in *f*, figure 32, the beak is weakened and lacks the sharp curve so well represented in most of the other drawings. The crest is usually barred gray and white, but these barrings do not show in uncolored figures. There is considerable variety shown in the minor details of the treatment of the plumes of the crest. In *i*, figure 32, they are fairly realistic, as they are in *b* and *e* of the same figure. In *a* they take on the appearance of a series of hooks, and in *d* they are much elongated. In *g* and *h*, as mentioned in connection with figure 8 (p. 336), the feathers take on appearance of stone knives. The reason for this is rather hard to fathom. The stone knife is itself one of the calendar symbols (see fig. 35) standing for the idea "flint." Stone knives appear occasionally on the head and back of the water-monster in place of spikes. Perhaps in both cases the stone knives represent merely a fanciful elaboration. A bird, however, something like an eagle, whose plumage consists entirely of flint knives, is a prominent mythological figure in the southwestern part of the United States. So there may be some mythological idea behind the drawing in the present case. In one or two cases the eagle is represented with a tongue protruding from his mouth (*c*, *d*, *e*, *g*, *h*, fig. 32). This tongue sometimes takes on the appearance of a long scroll, as in figure 32, *c*.

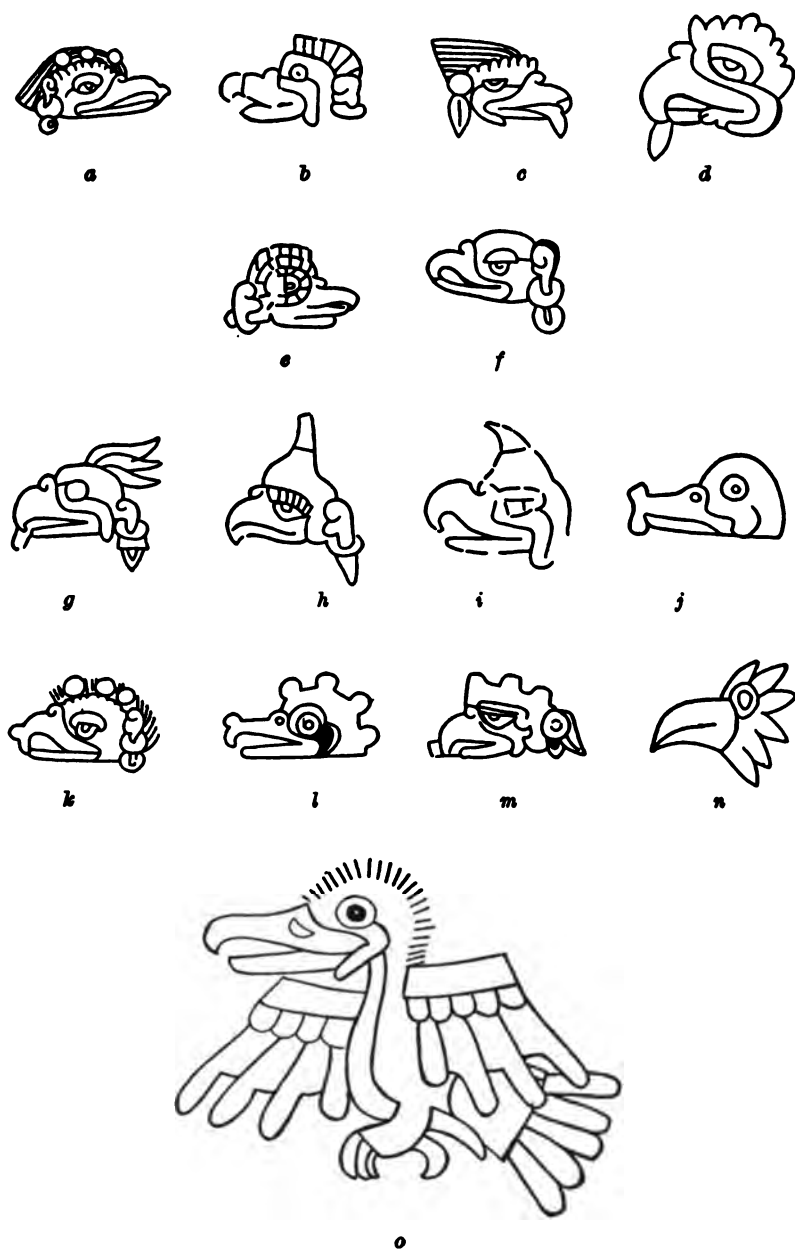


Fig. 33.—a-n, The Day-sign King-vulture (*Cosoauauhtli*);
o, Realistic Drawing of a Vulture

*King-vulture (Cozcaquauhtli)**Sources of drawings (fig. 33):*

<i>a</i> , Nuttall (Zouche), p. 54	<i>i</i> , Vatican B, p. 62
<i>b</i> , Vatican B, p. 2	<i>j</i> , Fejervary, p. 1
<i>c</i> , Nuttall (Zouche), p. 28	<i>k</i> , Nuttall (Zouche), p. 45
<i>d</i> , Nuttall (Zouche), p. 13	<i>l</i> , Fejervary, p. 40
<i>e</i> , Vatican B, p. 6	<i>m</i> , Vatican B, p. 1
<i>f</i> , Nuttall (Zouche), p. 59	<i>n</i> , Aubin, p. 3
<i>g</i> , Vatican B, p. 92	<i>o</i> , Nuttall (Zouche), p. 74
<i>h</i> , Vatican B, p. 78	

The drawings of the vulture are rather more interesting than those of the eagle, since they show a greater amount of variability, and have in addition certain curious features. Perhaps it is best to notice first of all the realistic drawing (fig. 33, *o*). The bird is here represented with his wings outspread. The most characteristic thing from the Aztec point of view seems to be his long beak with the hook at the end, and his curious naked head with fine hairs on it. Everyone agrees that the bird represented is the king-vulture or ringed vulture, called by the Mexicans of today the "Rey de Zopilotes." In the day-signs he is normally represented with an ear-ornament hanging at the back of his head. Seler⁷⁵ advances the idea that this ornament is intended to represent ideographically the idea of ornament in general, meaning in the present case that the bird's neck is *ringed*. It is, of course, hard to see why they should not have drawn the creature with a ring instead of an ear-ornament if that was the idea to be presented. It must however be observed that the day-sign Vulture, as already pointed out (see fig. 26), has, in some cases, exactly the same ear-ornament that is flaunted by the monkey in the day-signs. The two animals moreover are represented with very much the same sort of crest. It is entirely possible that the similarity of the vulture's crest to the monkey's has induced the appearance of similar ear-ornaments in both animals. It is, however, not easy to state why the monkey should have been so represented in the first place. At any rate, if the ear-ornament is an ideogram for "ringed" here, what is it in the case of the monkey symbol? The ear-ornament in connection

⁷⁵ 1900-1901-p. 13.

with the present day-sign takes on a variety of forms, but it might be noticed that in each case it is readily distinguishable from the ear-ornament worn by *Quetzalcoatl* (see fig. 9), another important figure commonly wearing this article of adornment.

The vulture's head is in actual fact almost bare. The few hairs or pin feathers which are represented in realistic fashion in figure 31, *o*, take on quite elaborate forms in certain of the day-signs. They are sometimes elaborated by the addition of small disks or balls (fig. 33, *a* and *k*). Sometimes they are connected by a continuous line, as in *b* and *c*. In *e* they take on the appearance of rectangles or scales. In *g* we see a bare head with a sort of aigrette or plume, which in *h* and *i* solidifies into a sort of peak. It seems that the artist must have had some such form as *g* vaguely in mind before he was able to produce such a form as *i*. On the other hand, it would seem that the custom of representing the vulture's crest with ornamental balls on top, as in *k*, probably explains the curious drawing shown in *l*, where they have become mere knobs. In *m*, from another manuscript, these, or similar knobs, are represented in still more simplified form. In *n* we have one of the degenerate forms from the Aubin manuscript, which is simply unrecognizable. In *j* we have an absolutely bare head, without even pin-feathers or the ear-ornament. In *d*, on the other hand, we have a vulture head which is elaborated until it is scarcely, if at all, to be distinguished from the head of Eagle (see fig. 32).

Motion (Olin)

Sources of drawings (fig. 34):

<i>a</i> , Bologna,	p. 1	<i>h</i> , Vatican B,	p. 8
<i>b</i> , Aubin,	p. 19	<i>i</i> , Nuttall (Zouche),	p. 51
<i>c</i> , Aubin,	p. 8	<i>j</i> , Nuttall (Zouche),	p. 45
<i>d</i> , Borgia,	p. 6	<i>k</i> , Vatican B,	p. 70
<i>e</i> , Nuttall (Zouche),	p. 36	<i>l</i> , Vatican B,	p. 93
<i>f</i> , Vatican B,	p. 46	<i>m</i> , Nuttall (Zouche),	p. 35
<i>g</i> , Nuttall (Zouche),	p. 20	<i>n</i> , Nuttall (Zouche),	p. 44

Figure 34, *b*, represents what is probably the "normal" form of this sign. This, at any rate is the form which is of most frequent occurrence on the monuments. It consists of two figures

side by side which meet in the center and are, so to speak, bent away from each other at the ends. At the middle of the outer edge of these two sides there are a couple of "handles," or rings. In the center of the whole there is a circular figure which, in the present case, has taken on the appearance of an eye. In the

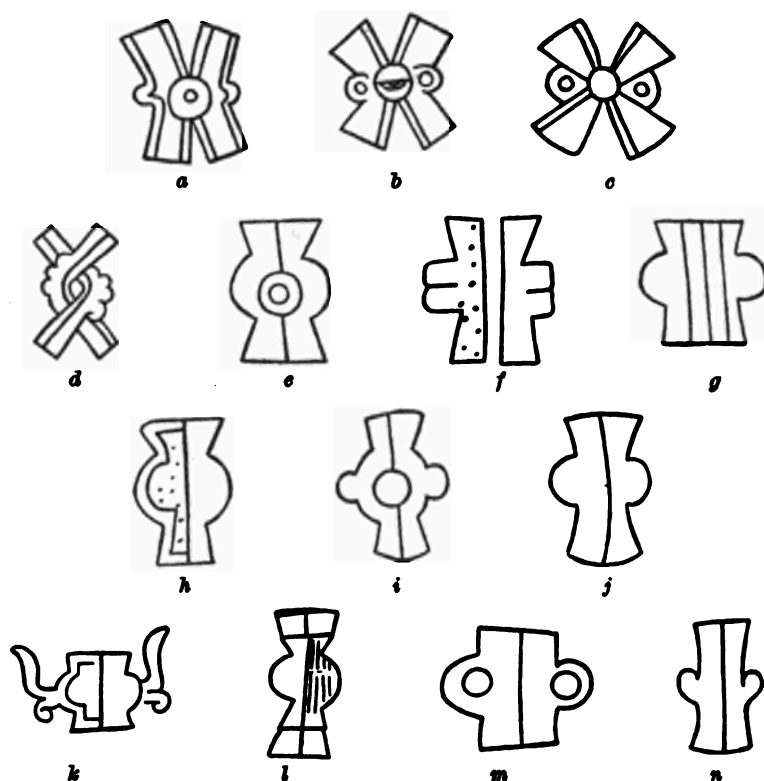


Fig. 34.—The Day-sign Motion (*Olin*)

famous highly elaborated altar stone in the Mexican National Museum, which usually goes by the name of the Aztec Calendar,⁷⁶ this central figure is filled with a great face which represents the sun. The meaning of this "motion" or *olin* design (fig. 34, *b*) is more or less of a puzzle. It sometimes occurs in the form shown in *d*, consisting of two angled figures fitted together or

⁷⁶ Leon y Gama, 1790; Chavero, 1876; Peñafiel, 1890, plates, vol. 2, p. 312, and corresponding portions of the text; Nuttall, 1901, p. 5; Maccurdy, 1910, p. 481 ff.

interlocked. It would be entirely possible to derive the forms like *b*, figure 34, from these simpler interlocked forms; but we know nothing at all about the real origin of these latter, and so we would be no nearer to a true explanation. It is worthy of remark that, in a general way, the normal form of this sign has something of the form of an X. It is moreover true that while the symbol stands for the word "motion," it is also associated with the sun. This fact may very likely be founded on a curious myth. The Aztecs, like a good many other peoples, have a myth which tells of a series of universal cataclysms. The first sun that was created came to an end in one of these cataclysms on the day Four-Wind. It was therefore named the "Wind" sun. After it was broken up another one was created which, at the close of the epoch, disappeared on the day Four-Tiger. This sun is therefore spoken of as the "Tiger" sun. Two more suns, disappearing on the days Four-Water, and Four-Rain, followed in series before our present sun came on the scene. In some mysterious way it is known that the present sun will disappear on the day Four-Motion, in which the sky will be broken up by an earthquake. It is therefore called the "Earthquake" or "Motion" sun, or *olin-tonatiuh*. The present writer is inclined to see in this myth⁷⁷ the real explanation of the association of this *olin* sign with the sun. It is of course possible to assume that the design stands for or directly represents the sun in some way, and that the myth was invented to explain that fact. The myth gives us, however, one definite reason why the sign should stand for the sun, and it seems a waste of time to go further afield, until there is more evidence. It would be easy to imagine half a dozen ways in which a graphic symbol for the sun might have degenerated into this sign. Imagine if you like that the original symbol for the sun was a disk with rays, and that these rays were gradually omitted until only four were left. These four, if skewed, would give the *olin* sign. Such theories represent mere mental gymnastics, unless a series of forms derived from a study of the monuments can be advanced to support them. The idea has

⁷⁷ See Maccurdy, 1901, for a most interesting paper on these myths and their representation on the monuments. Some of the most famous monuments of Mexican antiquity are connected with this story. Maccurdy's paper supplies a number of references to the literature.

actually been advanced that the *olin* sign represents the "four motions of the sun," that is, it stands for the four main points established by the sun in his yearly journey—the points of sunrise and sunset at the summer and winter solstices. If these points were plotted and connected diagonally by lines, we would have something approaching the *olin* symbol. It is worth noting, however, that the figure naturally produced would be a parallelogram, not an X. The sun moves not from the point in the southeast to the point in the northwest, but from the southeast to the southwest. We mentioned just above that the normal appearance of this sign represents an X. It is of some interest that the *kin* sign among the Mayas, which is also an X, is associated with the sun. Possibly a careful examination of the Maya mythologies would unearth some legend there corresponding to the Aztec story just mentioned.

If we take the sign shown in *b* as the complete or normal form, an idea for which there is some support in the fact that it is the most usual on the monuments, it is interesting to see which of its features are the most persistent in its career as a day-sign. It is obvious at once that its X-form readily becomes obscured. In *e*, figure 34, we have the two sides coalescing into a single figure with a straight line down the center. Seler⁷⁸ is inclined to see in this a picture of the sun disappearing into a cleft of the earth, the circle in the center being the sun, and the two sides day and night. This idea is based apparently on the fact that in figures of this type the two sides are often differently colored. It is somewhat hard to follow his reasoning here. It is in the first place quite unnecessary to make this assumption, as the figure can be plausibly explained in another way, and it leaves us, moreover, in more of a predicament than ever to account for the use of the sign to mean "earthquake" or "motion," which is certainly its literal meaning. The division of the sign into two differently colored surfaces is shown very nicely in figure 34, *f*. It will be seen in this figure (*b*) that of the original symbol we have the exterior outline, the circle in the center and the handles still remaining. It is a point of some

⁷⁸ 1900-1901, p. 14.

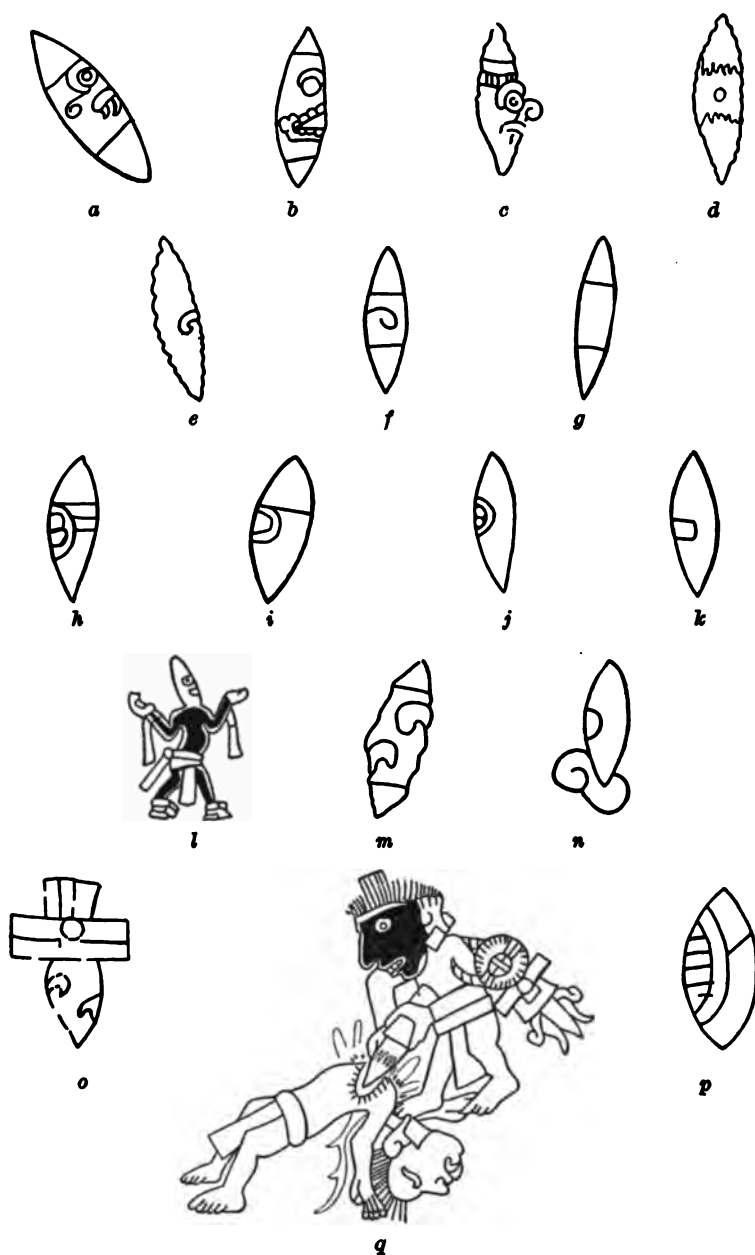


Fig. 35.—a-p, The Day-sign Flint (*Teopatl*); q, Realistic Drawing of a Sacrifice, showing the Flint Knife in use

interest that it is precisely these handles that are most persistent in all representations of the figure. They occur in simple form in *a*, very much enlarged in *e* and *h*, and double in *f*. Even in *d*, the interlocked figure, they appear as crinkles in a corresponding location. In drawings like *n*, where the proper outline of the figure even has disappeared, these two handles remain. In *m*, which is a rectangular design, we have two perfect handles. In *k* they are ornamented with scroll figures which look surprisingly like the Aztec symbols for smoke. Certainly a person encountering for the first time a symbol like *l*, *m*, or *f*, would hardly associate it with the designs shown in *b*. The symbol in question, then, shows a great variety of form. I think we shall have to dismiss the whole question of the reason why "motion" or "earthquake" is represented by a double figure with a circle in the center and handles at the sides, as a complete mystery.

Flint (Tecpatl)

Sources of drawings (fig. 35):

<i>a</i> , Nuttall (Zouche), p. 53	<i>j</i> , Nuttall (Zouche), p. 7
<i>b</i> , Vatican B, p. 98	<i>k</i> , Nuttall (Zouche), p. 16
<i>c</i> , Bologne, p. 1	<i>l</i> , Bologne, p. 4
<i>d</i> , Nuttall (Zouche), p. 62	<i>m</i> , Vatican B, p. 1
<i>e</i> , Nuttall (Zouche), p. 56	<i>n</i> , Nuttall (Zouche), p. 24
<i>f</i> , Nuttall (Zouche), p. 32	<i>o</i> , Vatican B, p. 74
<i>g</i> , Nuttall (Zouche), p. 39	<i>p</i> , Aubin, p. 16
<i>h</i> , Nuttall (Zouche), p. 34	<i>q</i> , Nuttall (Zouche), p. 69
<i>i</i> , Nuttall (Zouche), p. 32	

The drawing at the bottom of figure 35 represents a scene which is quite commonly portrayed in the Aztec manuscripts. The subject is a human sacrifice. The barefoot victim, dressed in the usual Aztec waist-cloth, is stretched on his back over the altar stone. The officiating priest, his face covered with the black paint which is usual in religious performances, bends over the prisoner and cuts his heart out with a stone knife. The priest himself wears a waist-cloth, has a large ear-plug thrust through the lobe of his ear, and carries hanging on his arm a pouch. In general, it must be said, pouches are quite usually represented in connection with priestly rites. The scene here represented is one of the best examples of Aztec draughtsman-

ship. The victim's posture, his glazed, closing eyes, and the blood streaming from the incision are all realistically presented.⁷⁹

The object of particular interest for the present purpose is the stone knife in the priest's hands. A few of these sacrificial knives for removing the heart in human sacrifices have been preserved to the present day. The best known specimen is the one inlaid with mosaic work which is preserved in the Christy Collection of the British Museum—a specimen which is a favorite subject for illustration by writers on Mexican archaeology.⁸⁰ A sacrifice scene similar to the one represented in the present figure is figured in the Magliabecchi manuscript.⁸¹ The sacrificial knife as actually used consists of a double-pointed blade chipped out of flint, with one of the pointed ends fitted into a wooden handle. A knife of the same pattern was selected by the authors of the calendar to stand for the idea "flint." It was apparently the most commonplace or most familiar object made of that material.

The various forms of the day-sign are shown in figure 35, *a-n*. The first drawing, *a*, is perhaps the most typical. I am of the opinion that the other forms are derived from this one. At any rate, we find all the gradations from a knife with this appearance to one with merely a few simple lines where the elaborate design ought to be. The various drawings fit so well into a series that it is hard to resist the temptation to regard them as steps in an evolution. The most noticeable thing about *a*, figure 35, is that we have there a flint knife with a human face, consisting of eye, mouth, and teeth, represented along one edge. More peculiar still, the face seems to represent that of the rain-god *Tlaloc* (see figure 36 for the various forms). We have in the case of the present figure the goggle eye and the mouth full of long teeth which are so characteristic of the rain-god. As to why the rain-god's features should be represented on the day-sign "Flint," I have never heard a suggestion.

I have said that *a*, figure 35, represents the usual form of this face on the Flint day-signs. In figure 35, *b*, however, we have

⁷⁹ One of the most realistic and picturesque descriptions of such a place of sacrifice is the one by Juan Diaz (the chaplain of the explorer Juan de Cordova), quoted by Mrs. Nuttall. 1910, pp. 256-259.

⁸⁰ Peñafiel, 1890, vol. 1, p. 123; Tylor, 1861, p. 101; Joyce, 1914, p. 194.

⁸¹ Nuttall, 1903, 58.

another and quite different form. Here we see the goggle eye, but instead of the *Tlaloc* face, in which the lower jaw is uniformly missing, and the upper jaw armed with long, fang-like teeth, we have a skeleton jaw with normal human dentition. It seems at least conceivable that the Aztecs represented these teeth on the edge of the flint-knife to symbolize the fact that the flint-knife cuts or bites. On the other hand, the drawing may symbolize especially the sacrificial knife, and the instrument may have been represented with teeth because the Aztecs thought of it as eating the heart of the victim. Figure 35, *c*, represents a degenerate form of this same drawing. In figure 35, *d*, we have still the knife, and we have the two lines across it transversely as in *a*. Nothing else is present, however, except a round dot in the center. It would seem almost necessary to conclude that this dot stands for the face as shown in *a*. It would be most plausible to assume that it is a remnant of the eye, all the rest of the face having dropped off. In similar fashion, the curl in *e*, and the still simpler curl in *f*, would seem to be the remnant of the mouth shown in *a*. In *g* all the facial features have disappeared, and we have nothing left but the two transverse lines. In *h*, *i*, *j*, *k*, *n* we have a series of simple designs which occupy the place that the face occupies in *a*, and which might easily be interpreted as degenerate forms of the face. There has, however, been more or less arbitrary elaboration and simplification of these designs. Perhaps the simplest is *k*. At the bottom of *n*, we see a curious curved design that possibly represents part of a haft or handle.

Figure 35, *l*, is another of the fanciful drawings which are rather usual in the Bologne manuscript. We have here the flint-knife with its face, but in this case a mannikin body has been fitted to it, and we have a complete person in a curious attitude, with both hands raised. The mannikin is dressed in waist-cloth and sandals, with long ornaments of a flexible sort attached to his wrists, and his body is painted black like that of the priest in sacrifices. We spoke a moment ago of the curious curl design which seems (fig. 35, *e*, *f*) to represent the mouth of our first original drawing. It is worth noting that if this is the real meaning of it, the artist in the case of *m*, figure 35, forgot that original meaning. He has drawn two of them, one on each side of the

blade. These two curls appear again in the case of *o*, although this latter is a realistic drawing of a flint-knife, with its handle and hilt plainly shown.

I should like to draw special attention to *p*, figure 35. This design represents the idea "Flint." There is no question about its identity, which can be determined from a consideration of the original series in which it occurs. Moreover, it is only a comparatively slight variation from some of the designs which represent the knife quite realistically (see *h*, *i*, etc.). The curved design at the edge of the blade has simply been expanded rather unduly. However, the drawing in *p* has gone so far from the original that it approaches very close to the Aztec representation of the ear of maize.

Rain (Quiahuitl)

Sources of drawings (fig. 36):

<i>a</i> , Nuttall (Zouche), p. 37	<i>i</i> , Vatican B, p. 20
<i>b</i> , Nuttall (Zouche), p. 39	<i>j</i> , Borgia, p. 50
<i>c</i> , Nuttall (Zouche), p. 38	<i>k</i> , Vatican B, p. 75
<i>d</i> , Vatican B, p. 96	<i>l</i> , Bologna, p. 2
<i>e</i> , Vatican B, p. 1	<i>m</i> , Aubin, p. 3
<i>f</i> , Nuttall (Zouche), p. 46	<i>n</i> , Vatican B, p. 94
<i>g</i> , Vatican B, p. 58	<i>o</i> , Vatican B, p. 71
<i>h</i> , Vatican B, p. 1	<i>p</i> , Nuttall (Zouche), p. 37

As already noted in several places, the day-sign Rain is represented by the face of the rain-god. This divinity was called by the Aztecs *Tlaloc*. A figure of the god is shown in *p*, figure 36. There are several things in his appearance and costume in this drawing that deserve special notice. In the first place he is very elaborately dressed. He wears not only the customary sandals and waist-cloth, but also a belt with some elaborate ornament behind, and on his breast a necklace with a large circular pendant. At the back of his head there seems to be an additional ornament. Around his wrists are bracelets, and in his hand he holds what may perhaps be considered a stalk of maize and a ceremonial pouch. The head of this divinity, however, is the part of most importance for our purpose, since the head only appears as a

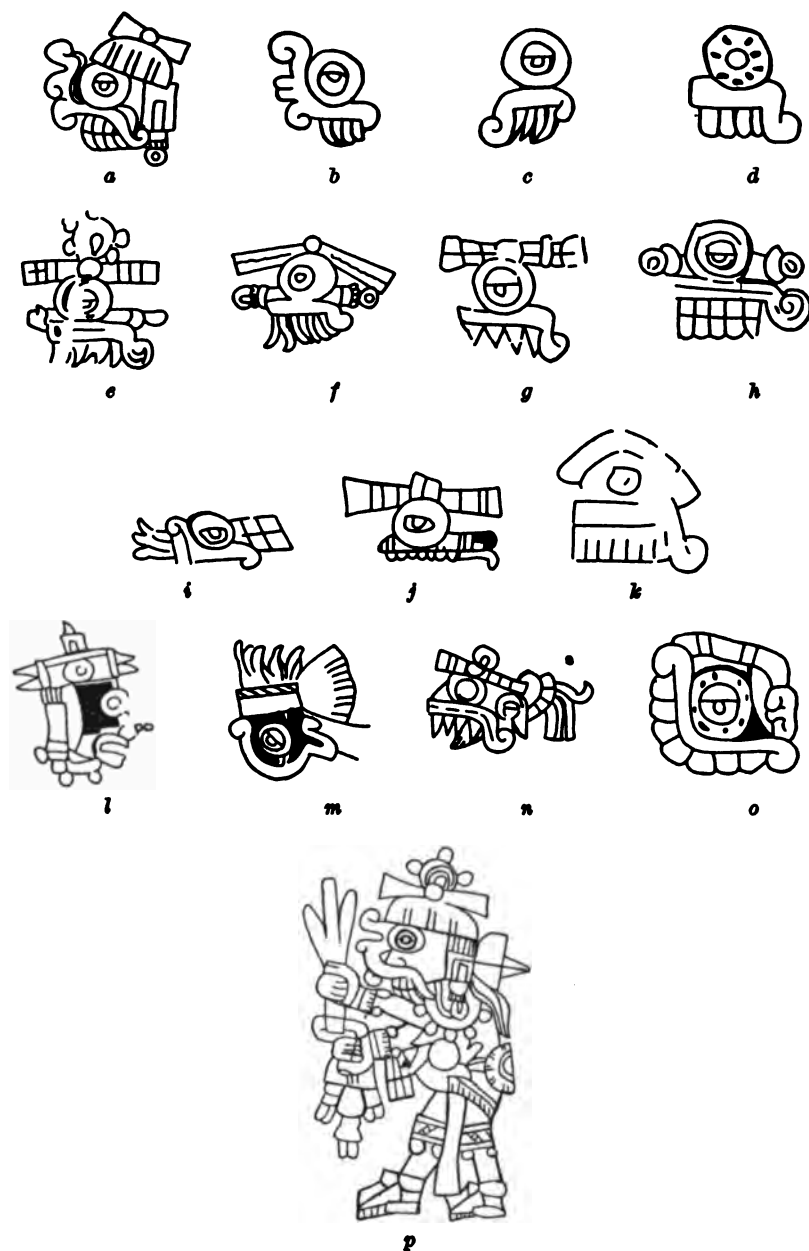


Fig. 36.—a-o, The Day-sign Rain (*Quiahuitl*); p, Realistic Drawing of the Rain-god, *Tlaloc*

day-sign. The figure we are discussing seems to represent a human being impersonating the god. We see in the drawing a human face, with hair coming down to the ear, and in this ear a complex ear-ornament. Part of the nose also is clearly visible. The facial features, however, are in large part obscured by something suggesting a mask. The eye is covered by a sort of goggle, and from this goggle a strip twists down over the face, running along the upper lip. From this strip over the mouth there depends a set of long tusks or fang-like teeth. This latter feature is the most characteristic part of the Tlaloc regalia. On the head, however, is a sort of cap surmounted by an ornament in two parts, one projecting forward, and the other to the rear. This ornament is also quite characteristic of the Tlaloc figure as usually represented. Let us now examine some of the variations of this figure when used as a day-sign.

The most complete delineation is shown in *a*, figure 36. Here we have all the important features of the god realistically represented. We see the ear-ornament, the goggle eye, the strip or mask with the tusks attached, and the cap with the two ornamental flaps. In the next drawing, however (*b*), we have merely the eye and the strip with its tusks. In *c* we have an even simpler form than in *b*, and in *d* the eye looks like a simple ring, and the teeth like slats. The strip that carries the fangs is also clumsy in this drawing and much simplified.

The drawings in *e*, *f*, *g*, and *h* show different forms, and were chosen with special reference to the ornamental flaps on the cap. In *e* the teeth, eye, and strip are all present, but the two flaps have become just a straight bar. We have a curious bar added just above the teeth, the origin of which I cannot explain. It appears, however, in *f* and *h*. In *f* the teeth look like a soft fringe. In *g* we have just on the head a straight bar (representing apparently the cap ornaments), a round eye, and the teeth. The teeth are not, however, the fangs proper to a Tlaloc figure, as usually represented, but are the triangular teeth characteristic of the Water-monster symbol.

In *h* we see the eye, intersected by a bar, and a simplified set of teeth. Whether this bar is the cap ornament, or the extra bar which appears first in *e*, it is impossible to say.

In *i*, *j*, and *k* we have these same elements very much simplified and distorted. In *i* the teeth, lip-strip, eye, and another design, perhaps representing teeth again, are all arranged to form one horizontal figure. Recognition of this maze of lines as Tlaloc symbols would be almost impossible, if we did not have intermediate stages before us. In *j* the three most persistent elements appear, teeth, eye, and cap ornament, but the teeth are very degenerate, hardly more than a set of scallops. In *k* the whole design is loose and formless, the teeth square at the end instead of pointed, and practically all similarity to the realistic drawing is lost. In *l* we have another one of the fanciful drawings from the Bologne Codex. We have the various parts of the Tlaloc figure, cap with flaps, ear-ornament, goggle eye, and mouth. The whole takes on, however, an entirely new appearance. On the face appears a large patch of black face-paint. The mouth is without teeth of any kind, although the teeth are certainly the most characteristic of all the Tlaloc features.

In *m* we have a curious design from the Aubin manuscript. The goggle eye, the cap, and the fringe of long teeth are all there. The artist has drawn them, however, upside down. In *n* again we have all the parts, but arranged to give quite a different effect from any of the other drawings. The teeth, moreover, are of the Water-monster variety. In *o* we have a drawing that might easily be mistaken for the Water-monster symbol. It would almost seem that the artist had the Water-monster figure in the back of his mind. The drawing shows the goggle eye and the curved lip-strip. The teeth, however, have lost their long tapering shape, and the artist has made them follow around up the curve of the strip, giving almost exactly the effect of Water-monster's upturned snout. We have, however, behind the eye, an ear which would not be in place on the Water-monster design. Altogether, there is none of the symbols which is more complicated and distinctive than the representation of the Rain symbol, and yet there is no design which shows more marked variability or greater similarity to entirely independent symbols.

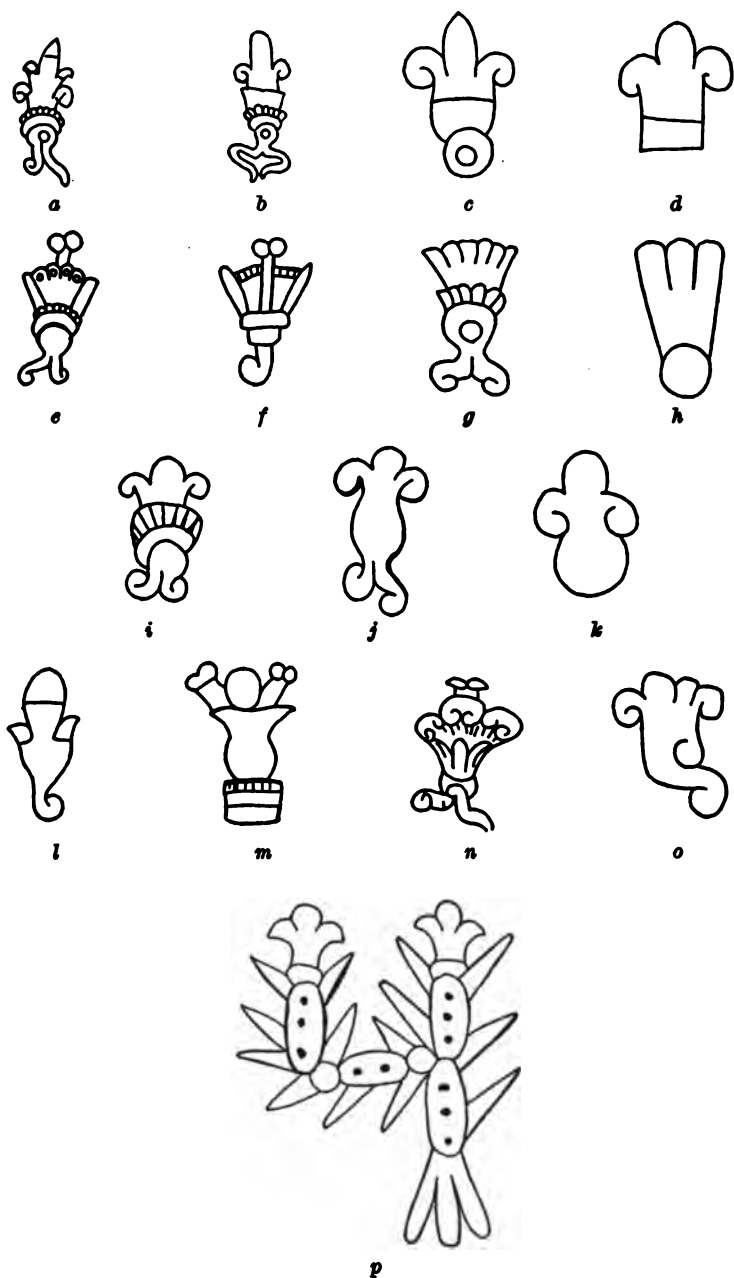


Fig. 37.—a-o, The Day-sign Flower (*Xochitl*); p, Realistic Drawing of a Plant in Blossom

*Flower (Xochitl)**Sources of drawings (fig. 37):*

<i>a</i> , Nuttall (Zouche), p. 43	<i>i</i> , Nuttall (Zouche), p. 2
<i>b</i> , Nuttall (Zouche), p. 53	<i>j</i> , Nuttall (Zouche), p. 15
<i>c</i> , Nuttall (Zouche), p. 3	<i>k</i> , Aubin, p. 4
<i>d</i> , Nuttall (Zouche), p. 43	<i>l</i> , Nuttall (Zouche), p. 76
<i>e</i> , Nuttall (Zouche), p. 51	<i>m</i> , Nuttall (Zouche), p. 6
<i>f</i> , Nuttall (Zouche), p. 52	<i>n</i> , Aubin, p. 6
<i>g</i> , Nuttall (Zouche), p. 16	<i>o</i> , Nuttall (Zouche), p. 19
<i>h</i> , Fejervary, p. 17	<i>p</i> , Fejervary, p. 5

Figure 37 represents the various forms of the day-sign Flower. There is considerable variety in these drawings, but they all represent obviously the same thing, namely a blossom. The most usual outline is perhaps that of the fleur-de-lis. This appears, for example, in *a* and *b*. In some cases, however, the blossom is quite painstakingly portrayed with stem, petals and stamens. (See, for example, *e*, *f*, and *n*.) In other cases this flower figure becomes so simplified that it can scarcely be recognized at all. The most extreme case of this is perhaps *h*, in which all likeness to the flower is lost. In one or two cases in the manuscripts the blossom is represented in a geometric fashion. An example of this is shown in *f*. The most realistic forms are possibly *e* and *n*, where the various parts of the blossom are shown in their natural relations. In *j*, *k*, and *o*, however, the drawings become quite grotesque and are hardly recognizable at all.

Figure 37, *p*, shows a plant in blossom. The similarity between these blossoms and those drawn to represent the day-sign Flower is so marked that a case of identity seems to be established. The plant represented in *p* is apparently a cactus, and in all probability the ordinary "prickly-pear," in Aztec *nochtli*, that is quite common on the Mexican plateau. This seems to be indicated by the way in which the oval leaves are joined. That the plant is the cactus is suggested also by the presence of the long thorns. As in many cases, there is represented at the bottom of the plant the root. It seems altogether likely, then, that the Aztec day-sign Flower represents really the flower of the prickly-pear cactus.

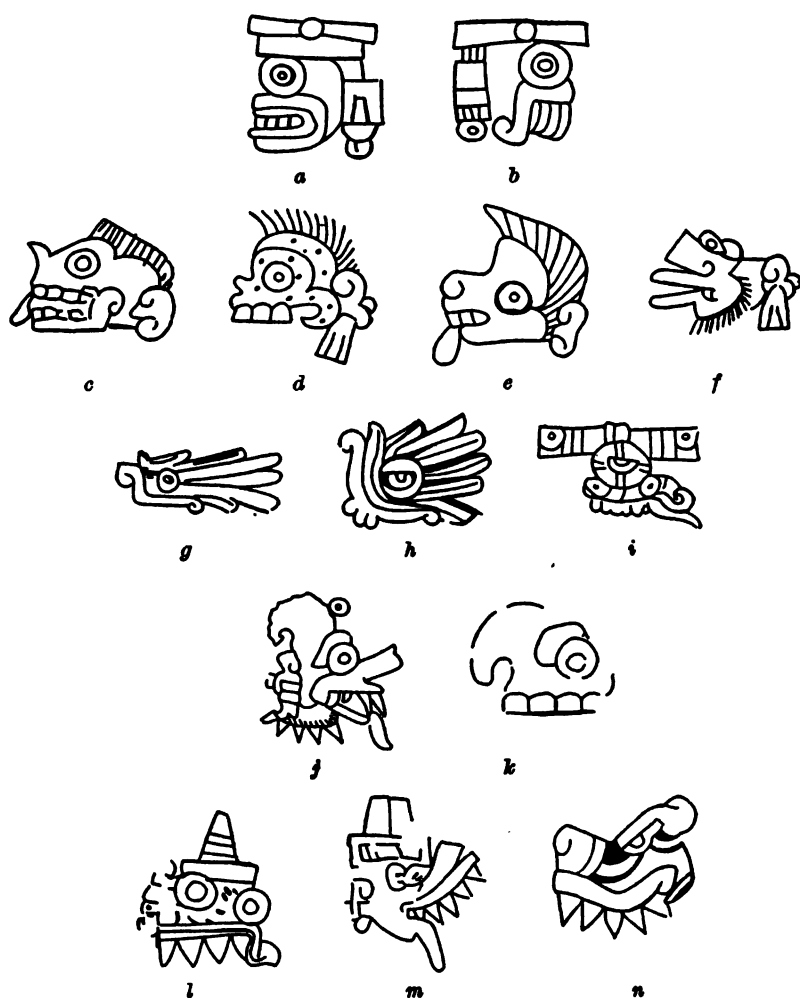


Fig. 38.—Drawings showing the Borrowing of Characteristics between the Various Day-signs

Sources of drawings (fig. 38):

a, Nuttall (Zouche), p. 71	h, Borgia, p. 64
b, Nuttall (Zouche), p. 12	i, Borgia, p. 5
c, Vatican B, p. 88	j, Bologna, p. 3
d, Fejervary, p. 5	k, Vatican B, p. 21
e, Nuttall (Zouche), p. 11	l, Vatican B, p. 62
f, Fejervary, p. 9	m, Vatican B, p. 96
g, Borgia, p. 57	n, Vatican B, p. 28

BORROWING OF CHARACTERISTICS

Mention has been made in so many places of the borrowing of characteristics between different day-signs that the matter may deserve special illustration. Figure 38 shows a number of drawings in which this borrowing has taken place. These are particularly picturesque examples and will serve perhaps to conclude the whole matter. In *a* and *b* of figure 38 we have two typical day-signs. The first of these, *a*, represents the monkey quite realistically. It will be seen at once, however, that he has borrowed the flat two-flapped cap that is characteristic normally of the Rain sign (*b*). Monkey, it will be remembered, is represented normally with a crest (see *e* of the present figure). The presence of the cap, then, in *a* is simply a case of outright borrowing. On the other hand, in *c*, *d*, and *e* of figure 38, we have a case where the monkey loans one of his features. The first of these drawings (*d*) represents the day-sign Death and consists primarily of a skull. The skull is topped, however, by a crest which has been borrowed obviously from the monkey (see *e* of this figure). The monkey is the only animal normally represented with this feature. It will be remembered, too, that one of the characteristic things about the monkey is the presence of an ear. This monkey ear appears quite inappropriately on the skull shown in *c*. In the Death symbol shown in *d*, an ear-ornament belonging to the wind-god has been borrowed (see *f*, figure 36). In *d*, therefore, the artist borrowed two features, the crest from the monkey and also the wind-god's ear-ornament.

In *g*, *h*, and *i* we have a curious example of borrowing. *g* represents the symbol for water, which is a dish with water pouring out of it, and a little circular object in the center representing a shell. In *i* we see a typical representation of rain-god, the central feature of which is a semi-circular eye. Figure *h* is a representation, like *g*, of water. Instead of a shell, however, the artist represents in its midst an eye which he has apparently borrowed from the Rain symbol.

In *j*, figure 38, we have a representation of the wind-god. He has the usual wind-god's snout with the opened mouth and an eye. He has, however, borrowed from the skull sign (see *k*) an

additional eye, and the hooked rear portion of the skull. We have then in *j* a curiously complicated and rather meaningless figure—a wind-god with beak and ear-ornament topped by a cranium and a loose eye borrowed from the symbol of Death.

In the last three drawings of the figures *l*, *m*, and *n*, we see a curious case of interchanging of traits. Let us direct attention first of all to the water-monster drawing (*n*). The important things here are an upcurved snout ornamented with big triangular teeth. In *l* we have a representation of the rain-god standing for the day-sign Rain. In drawing this latter symbol, however, the artist borrowed two things. In the first place he borrowed the teeth from the water-monster, and in the second place, the pointed cap or mitre from the god of wind. On the other hand, the wind-god here represented (*m*) is shown with an upcurved beak, obviously an imitation of the water-monster; and this curved beak is ornamented with typical water-monster teeth.

CONCLUSION

I should say by way of summary concerning the general tendencies which operate in the delineation of the day-signs, that there is, in the first place, wide variation in type. It must be noted that this variation is not due to historical development; on the contrary, it is due in large part to conscious elaboration or abbreviation on the part of each artist. We sometimes find two widely variant forms in one day-sign, one perfect, the other degenerate, side by side on the same page of one manuscript. The difficulty in recognizing the day-signs, where there is any difficulty, arises from the fact that there are no hard and fast criteria for the recognition of the symbols. One symbol may gradually change until it closely resembles another. To render this approximation still more marked, we have the curious borrowing which has just been illustrated, in which perfect features from one day-sign are transplanted and appear entire in the drawings of another. The amount of variation is so great that an almost unlimited number of examples could be chosen. The day-signs as they are drawn in the manuscripts offer many examples of divergence.

BIBLIOGRAPHY

AZTEC MANUSCRIPTS

- Aubin Tonalamatl. [A facsimile manuscript issued as an addendum to Seler's work of the same title.] 1900-1901. Cited as **Aubin**.
- Codice Messicano di Bologna (Codice Cospiano). Manuscrito pictórico de los Antiguos Nauas que se conserva en la Biblioteca de la Universidad de Bolonia. Reproducido en fotocromografía á expensas de S. E. el Duque de Loubat. Roma, 1898. Cited as **Bologna**.
- Codice Messicano Borgiano del Museo Etnografico della S. Congregazione di Propaganda Fide. Reprodotta in fotocromografía a spese di S. E. il Duca di Loubat a cura della Biblioteca Vaticana. Roma, 1898. Cited as **Borgia**.
- Codex Ferjervár-Mayer. Manuscrit mexicain precolombien des Free Public Museums de Liverpool (M 12014). Published by le Duc de Loubat. Paris, 1901. Cited as **Fejervary**.
- Codex Nuttall. Facsimile of an ancient Mexican Codex belonging to Lord Zouche of Harynworth with an introduction by Zelia Nuttall. Peabody Museum, Harvard University, Cambridge, Mass., 1902. Cited as **Nuttall (Zouche)**.
- Il Manoscritto Messicano Vaticano 3773. Reprodotta in fotocromografía a spece di S. E. Duca di Loubat a cura della Biblioteca Vaticana. Roma, 1896. Cited as **Vatican B**.
- Zouche Manuscript (see "Codex Nuttall").

RECENT WORKS REFERRED TO IN THE TEXT

ANTIGÜEDADES MEXICANAS. See Chavero, 1892.

BANDELIER, A. F.

1880a. On the art of war and mode of warfare of the ancient Mexicans. (Reports of the Peabody Museum of Harvard University, vol. 2, pp. 95-162.)

1880b. On the distribution and tenure of land and the customs with respect to inheritance among the ancient Mexicans. (Reports of the Peabody Museum of Harvard University, vol. 2, pp. 385-449.)

1880c. On the social organization and mode of government of the ancient Mexicans. (Reports of the Peabody Museum of Harvard University, vol. 2, pp. 557-700.)

BENEVENTE, TORIBIO DE. See Toribio.

BEUCHAT, H.

1912. Manuel d'Archaeologie (Américaine (Amérique préhistorique—Civilizations disparues.) Paris.

BOWDITCH, C. P.

1910. The numeration, calendar systems and astronomical knowledge of the Mayas. Cambridge.

BRINTON, D. G.

1885. *The annals of the Cakchiquels*. (Library of Aboriginal American Literature, number 6.) Philadelphia.

1893. *The native calendars of Mexico and Central America*. Philadelphia.

CHAVEIRO, ALFREDO.

1876. *Calendario Azteca. Ensayo Arqueológico*. Ed. 2. Mexico.

1892. *Antigüedades Mexicanas* (editor). Published by the Junta Colombina. Mexico.

CLAVIGERO, F. X.

1870-1881. *Storia Antica del Messico*. 4 vols. Cesena.

CRÓNICA DE LA S. PROVINCIA DEL SANTÍSSIMO NOMBRE DE JESUS DE GUATEMALA. Anonymous manuscript of 1683.

ENOCK, C. REGINALD

1909. *Mexico. Its ancient and modern civilization, etc.* London and Leipsic.

FABREGA, JOSÉ LINO.

1899. *Interpretation del Codice Borgiano*. (Mexico, Museo Nacional, *Anales* [first series], vol. 5.)

FÖRSTEMANN, E.

1893. *Die Zeitperioden der Mayas*. (Globus, vol. 63. Reprinted in Bull. 28, Bur. Am. Ethn., pp. 493-498.)

1895. *Die mittelamerikanische Tonalamatl*. (Globus, vol. 67, pp. 283-285. Reprinted in Bull. 28, Bur. Am. Ethn., pp. 527-533.)

GOODMAN, J. T.

1897. *The archaic Maya inscriptions*. (Biologia Centrali-Americana. Archaeology. Appendix. See Maudslay, 1889-1902.)

HUMBOLDT, A. VON

1816. *Vues des Cordilleres et monuments des peuples indigenes de l'Amérique*. Paris.

ICAZBALCETA, J. GARCIA

1858-1870. *Coleccion de documentos para la historia de Mexico*. 3 vols. Mexico.

1885-1892. *Nueva coleccion de documentos para la historia de Mexico*. 5 vols. Mexico.

JONGHE, ED. DE

1906. *Die altmexikanische Kalendar*. (Zeitschrift für Ethnologie, vol. 38, pp. 485-506.)

JOYCE, T. A.

1914. *Mexican Archaeology*. London.

KINGSBOROUGH, LORD

1831. *Antiquities of Mexico: comprising facsimiles of ancient Mexican paintings and hieroglyphics . . . together with the Monuments of New Spain by M. Dupaix. . . . 9 vols.* London.

LEON Y GAMA, A.

1790. *Descripcion historica y cronológica de las piedras que se hallaron en la plaza principal de Mexico*. Mexico.

MACOURDY, GEORGE GRANT

1910. An Aztec "Calendar Stone" in the Yale University Museum. (*American Anthropologist*, n.s., vol. 12, pp. 481-496.)

MAUDSLAY, A. P.

- 1889-1902. *Biologia Centrali-Americana*, or contributions to the knowledge of the flora and fauna of Central America. Archaeology. 4 vols. of plates, 1 vol. of text and an appendix. London.

MOTOLINIA. See Toribio de Benevente.

NUTTALL, ZELIA

1891. The atlatl or spear-thrower of the ancient Mexicans. (Archaeological and ethnological papers of the Peabody Museum of Harvard University, vol. 1, pp. 173-207.)
1901. The fundamental principles of Old and New World civilizations. A comparative research based on a study of the ancient Mexican religious, sociological and calendrical systems. (Archaeological and Ethnological Papers of the Peabody Museum of Harvard University, vol. 2.)
1903. The book of the life of the ancient Mexicans, containing an account of their rites and superstitions. An anonymous Hispano-Mexican manuscript preserved at the Biblioteca Nazionale Centrale, Florence, Italy. [Sometimes called the Codex Magliabecchi.] Part 1, introduction and facsimile. University of California, Berkeley, Cal.
1904. Periodic adjustments in the ancient Mexican calendar system. (*American Anthropologist*, n.s., vol. 6, pp. 486-500.)
1906. Problems in Mexican archaeology. (*American Anthropologist*, n.s., vol. 8, pp. 133-149.)
1910. The island of Sacrificios. (*American Anthropologist*, n.s., vol. 12, pp. 257-295.)

OROZCO Y BERRA, MANUEL

1880. *Historia antigua y de la conquista de Mexico*. 4 vols. Mexico.

PEÑAFIEL, ANTONIO

1885. Nombres geográficos de México. Catalogo alfabético de los nombres de lugar pertinentes al idioma "Nahuatl." Estudio jeroglífico de las matriculas de las tributos del Codex Mendocino . . . Dibujo de las Antigüedades Mexicanas de Lord Kingsborough. Mexico.
1890. Monumentos del arte Mexicano antiguo. Ornamentacion, mitología, tributos, y monumentos. Berlin.

SAHAGUN, BERNARDINO

1829. *Historica General [Universal] de las cosas de Nueva España*. Mexico. [An independent edition is printed in Kingsborough, London, 1831, vol. 7. A French translation was edited by Jourdanet and Siméon, Paris, 1880.]

SELER, EDUARD

1891. Zur mexikanischen Chronologie mit besonderer Berücksichtigung des zapotekischen Kalenders. (Zeitschrift für Ethnologie, vol. 23, pp. 89-133. Translated in Bull. 28, Bur. Am. Ethn., pp. 1-55. Reprinted in 1902-1908, vol. 1, pp. 507-554.)
1893. Die mexikanischen Bilderhandschriften Alexander von Humboldts in der Königlichen Bibliothek zu Berlin. Berlin. (Reprinted in 1902-1908, vol. 1, pp. 162-300. Translated in Bull. 28, Bur. Am. Ethn., pp. 123-230.)
1898. Die Venusperiode in den Bilderschriften der Codex Borgia Gruppe. (Verhandlungen der Berliner Gesellschaft für Anthropologie, Ethnologie und Urgeschichte. Reprinted in 1902-1908, vol. 1, pp. 618-667. Translated in Bull. 28, Bur. Am. Ethn., pp. 123-229.)
- 1900-1901. The Tonalamatl of the Aubin Collection, an old Mexican picture manuscript in the Paris National Library (Manuscripts Mexicains No. 18-19). Published by the Duke of Loubat, with introduction and explanatory text by Dr. Eduard Seler. Berlin and London. English translation by A. H. Keane.
- 1902-1908. Gesammelte Abhandlungen zur amerikanischen Sprach- und Alterthumskunde. 3 vols. Berlin.
1903. Die Korrekturen der Jahreslänge und die Länge der Venusperiode in den mexikanischen Bilderschriften. (Zeitschrift für Ethnologie, vol. 35, pp. 27-49. Reprinted in 1902-1908, vol. 3, pp. 199-220.)

SERNA, JACINTO DE LA

1899. Mexico, Museo Nacional, Anales, vol. 5.

SPENCE, LEWIS

1912. The civilization of ancient Mexico. Cambridge, University Press. (New York, G. Putnam & Sons.)

SPINDEN, H. J.

1913. A study of Maya art. (Memoirs of the Peabody Museum of Harvard University, vol. 6.)

TERNAUX-COMPANS, H.

- 1837-1841. Voyages, relations, et mémoires originaux pour servir à l'histoire de la découverte de l'Amérique. 21 vols. Paris.

TEZOMOC, FERNANDO DE ALVARADO

- Crónica Mexicana (see Kingsborough, 1831, vol. 9). Translated into French by Ternaux-Compans, Paris, 1855.

THOMAS, CYRUS

- 1897-1898a. Mexican calendar systems. (19th Report of the Bureau of American Ethnology, part 2, pp. 693-819.)
- 1897-1898b. Numeral systems of Mexico and Central America. (19th Report of the Bureau of American Ethnology, part 2, pp. 853-955.)

TORQUEMADA, JUAN DE

1615. . . . libros rituales y monarquía Indiana, etc. Sevilla. Ed. 2, edited by A. Gonzales-Barcia, Madrid, 1723.

TORIBIO DE BENEVENTE (called **MOTOLINIA**)

Historia de los Indios de Nueva España (see Kingsborough, 1831, vol. 9, where parts of it are printed. Another edition, complete, will be found in Garcia Icazbalceta, 1858-1870, vol. 1.)

TYLOR, E. B.

1861. *Anahuac, or Mexico and the Mexicans, ancient and modern.* London.

VEYTIA, M. FERNANDEZ

1907. *Los calendarios Mexicanos.* Mexico, published by the Museo Nacional.

UNIVERSITY OF CALIFORNIA PUBLICATIONS
IN
AMERICAN ARCHAEOLOGY AND ETHNOLOGY

Vol. 11, No. 7, pp. 399-472

March 9, 1916

THE MUTSUN DIALECT OF COSTANOAN
BASED ON THE VOCABULARY
OF DE LA CUESTA

BY
J. ALDEN MASON

CONTENTS

	PAGE
INTRODUCTION	400
PART I. STRUCTURE	402
General Characteristics	402
Phonetic System	402
Parts of Speech	405
Nouns	405
Etymological Suffixes of Nouns	406
Morphological Suffixes of Nouns	408
Pronouns	411
Verbs	411
Etymological Suffixes of Verbs	412
Morphological Suffixes of Verbs	415
Adjectives	425
Particles	426
PART II. CLASSIFIED LIST OF STEMS	427
Nouns	427
Animals	427
Botanical	429
Body Parts	430
Manufactures, Instruments	433
Natural Phenomena	435
Words of More Abstract Significance	436
Terms of Relationship and Personal Categories	437
Numerals	439

	PAGE
Pronouns	439
Demonstratives	440
Adjectival Pronouns	440
Interrogative Pronouns	440
Verbs	441
Adjectives	461
Adverbs	466
Locative Adverbs	466
Temporal Adverbs	466
Descriptive and Miscellaneous Adverbs	467
Interjections	468
POSTSCRIPT	470

INTRODUCTION

A century ago Father Felipe Arroyo de la Cuesta, one of the most earnest and indefatigable members of the order of St. Francis, collected a mass of 2884 words, phrases, and sentences from the language of the Mutsun Indians, spoken at his mission of San Juan Bautista near Monterey, California. At about the same time he composed a grammar of the language, which is one of the branches of the Costanoan linguistic group. These two manuscripts were sent by Alexander S. Taylor to the Smithsonian Institute, which loaned them for publication to John G. Shea, in whose *Library of American Linguistics* they appear as volumes iv and viii, 1861 and 1862. Together they form one of the fullest and most complete collections of data extant on a Pacific Coast language. There is little doubt that the missionary knew the language well and interpreted its psychology and spirit fairly correctly. In his grammar there appears less strict adherence to the form and structure of Latin grammar, less subconscious premise of Latin as the standard *par excellence* than is generally found in grammars of this time and type. Nevertheless, in spite of the comparative excellence of the grammar, but because of its lack of scientific arrangement, unphonetic orthography, and the foreign tongue, it is deemed better to rearrange and formulate the grammar, using as a basis the phrases of the vocabulary.

The phrase-book is likewise unfortunate in that it is at present almost inaccessible to the modern student, due to its faulty arrangement. This is done alphabetically according to the initial

letter of the sentence, the various stems being scattered throughout the nearly three thousand sentences. The same difficulties of unphonetic orthography and Spanish language likewise obtain here.

Several years ago Dr. Kroeber had the majority of the phrases comprising the more important of the sentences copied to a card-index. I have recently spent some time in working over the material thus secured, arranging cards according to stems and isolating grammatical particles. The following paper embodies the results of this research.

While the grammar of De la Cuesta is the most complete ever published on a Costanoan language, several more scientific treatises have been produced in the last few years, principally by the University of California. These are, "Languages of the Coast of California South of San Francisco,"¹ and "The Chumash and Costanoan Languages."² Other pertinent works are "Phonetic Constituents of the Native Languages of California,"³ "The Native Languages of California,"⁴ and "New Linguistic Families in California."⁵

The present paper consists of two parts, first an exposition of the etymological and morphological elements upon which the structure of the language is based, and second a list of the various stems of all classes found in the material, though, since not all of the phrases were transferred to cards, this does not entirely exhaust all those in the original phrase-book. These are appended partly as reference for the examples of morphological and etymological word-structure previously cited, but more particularly as an aid to the larger work of comparison of Mutsun with kindred Costanoan and other extra-group languages. The recent proposal of the "Penutian" linguistic family, to which Mutsun would belong, renders such a glossary invaluable for purposes of comparison.

¹ A. L. Kroeber, *present series*, II, 29-80, 1904.

² *Ibid.*, IX, 237-271, 1910.

³ *Ibid.*, X, 1-12, 1911.

⁴ R. B. Dixon and A. L. Kroeber, *American Anthropologist*, n.s., V, 1-26, 1903.

⁵ *Ibid.*, n.s., XV, 647-655, 1913.

PART I. STRUCTURE

GENERAL CHARACTERISTICS

The surprisingly close similarity between the general morphologic structure and *Sprachgeist* of Costanoan and other languages of its type and Indo-European has already been noted but is none the less striking. The main characteristics of the language may be thus summarized. Phonetic simplicity and comparative unimportance of rules of phonetic change; complete lack of incorporation, either nominal or pronominal; complete absence of prefixes; independent pronouns; nominal case endings; and comparative simplicity of categories of mood, tense and number, necessitating an immense number of dissimilar stems of relatively slight difference in significance.

PHONETIC SYSTEM

The phonetic system of Mutsun and of Costanoan appears to be relatively simple. The vowels are *a, e, i, o, u*, all appearing open in quality. The Spanish orthography is perfectly satisfactory for expressing these sounds and no change has been made in transcription. Rarely a vowel is found in the phrase-book with circumflex accent and very rarely with acute accent, but as no uniformity in thus spelling any word is evident, and as the phonetic variation thus expressed is not described, such marks have been disregarded.

The consonants seem to be only *w, y, m, n, l, r, s, c, x, h, p, t, ʔ, k*, and *tc*. *m, n, l, r, s, p*, and *t* (dental or interdental) are probably correctly expressed in De la Cuesta's Spanish orthography and are left unchanged. *w* is generally expressed in Spanish by *hu* with following vowel. De la Cuesta writes *hua, hue, hui*, and once *hüo*. He further uses often *gua, güe, güi*, and *guo* which denote in Spanish *gwa, gwe, gwi* and *gwo*. There is no sonant *g* in Costanoan, though the *k* has an intermediate quality. We find, however, that, though the *hu-* and *gu-* orthographies are each generally used consistently for certain stems,

there are occasional cases of identity, e.g., *guallun*, *huallun*, *huolon*, "be envious;" *huilo*, *guilo*, "signal 'yes' with the eyes;" *huipa*, *güipa*, "invite"; *güeren*, *weren*,⁶ "rabbit." Similarly the *gu-* orthography without the diæresis, *gue*, *gui*, is found often. This denotes pure sonant *g* in Spanish, a sound missing in Costanoan. Instances of a stem both with and without the diæresis are common, e.g., *gueiero*, *güeierogmin*, "great," and it is probable that such omissions of the diæresis are accidental. Therefore all *ku-* and *gu-* orthographies have been changed uniformly to *w*. Medial *w* is probably expressed by *u* with following vowel, but it often is difficult to decide whether a given *u* is vocalic or consonantal.

y is expressed correctly except in certain combinations; De la Cuesta's *ñ* probably denotes *ny*. (In a few cases of doubt it has been retained as *ñ*, as in suffix *pañ*.) *i* and *y* are sometimes interchanged, as *yttug*, *ittug*, "a seed." Here also it is often difficult to distinguish vowel and consonant.

c (*sh*) is not definitely distinguished by De la Cuesta but is suggested by certain *sh*, *sch* orthographies. Had he distinguished the sound he would probably have written it with an *x* in accord with older Spanish usage.

x (palatal surd fricative) presents some difficulties. Initially it is doubtless represented by *ja*, *ge*, *gi*, *jo*, *ju*. Medially the same orthography is utilized. Final *x* seems to be represented by *g*, e.g., *uming*, *mü'ix*,⁶ "wolf;" *eg*, *ex*,⁶ "squirrel." De la Cuesta's *g* in consonantal combinations offers the most uncertain of the phonetic problems. *tigsin*, "skunk," is checked by Kroeber's *tixsin*,⁶ rendering it practically certain that *g* in this case represents *x*. On the other hand, *g* before *m* and *n* probably represents *k*. Thus *cma* and *gma* are both used as a plural suffix. *gne* is a common passive suffix. Kroeber has *nimikne wākai*,⁶ "he hit me," doubtless the same suffix. Kroeber transcribes *tansagte*, "ten," *tansakte*, but *atsiagnis*, *atsiaznis*.⁷ Substitution has here been made on the theory that *g* before a surd represents the continuant *x*, while before a sonant or intermediate it represents the palatal stop *k*.⁷

⁶ A. L. Kroeber, MS.

⁷ See postscript below, p. 470.

Initial and medial *h* may be silent, as in modern Spanish, but since it is regularly employed in certain stems, and as both *h* and *x* are found in most Costanoan texts, it is retained.

ʃ is the tongue-blade *t* found in the Costanoan and neighboring languages. De la Cuesta wrote variously *tr*, *th*, *thr*, *thrs*, *trs*, etc. It is often difficult to decide whether the last consonant of the complex is a distinct sound or not.

Following Spanish usage, *k* is denoted by De la Cuesta by *c* before *a*, *o* and *u*, and by *qu* before *e* and *i*.

The affricative *tc* is regularly written by De la Cuesta *ch* but often confused with *ʃ*.

Doubled letters, both consonants and vowels, are frequently met with in De la Cuesta's orthography. As these are foreign to the Spanish language, except in the cases of *ll* and *rr*, it is assumed that the device is employed to express length or duration of the sound and is therefore expressed in the present paper as the simple sound followed by inverted period, in accord with modern usage.

The Spanish language is, on the whole, a far better medium for the recording of unfamiliar languages by an untrained ear than the unrevised English. In the great majority of cases there is no question as to the exact phonetic rendering of the native words, and in a great number of cases they may be left in their original forms. Only in cases where sounds unfamiliar to the Spanish ear occur is difficulty found. Such are *w*, the peculiar tongue-blade *ʃ* common to certain California languages, and un-Castillian combinations of sounds. Little difficulty has therefore been encountered in transcribing the native words to modern phonetic orthography, which is doubtless an advisable procedure.

The chances for frequent error in so many transcriptions and changes in authorship are too great to allow any phonetic discrimination or any elucidation of the finer and less evident points of the language. Shea's impression is replete with errors of transcription from the Padre's manuscript, and these may be increased in the present digest. Many words are spelt variantly, sometimes on the authority of the original, at other times manifestly due to improper reading of the manuscript. This is particularly true with regard to the easily confused *m*, *n*, *u*, and *i*.

Nevertheless, a few pertinent remarks may be made on Mutsun phonetic laws. The language is phonetically smooth and simple, the average word being an orderly alternation of consonant and vowel. Either consonant or vowel may begin or end a word, but consonantal combinations seem to be missing initially or finally, the few recorded cases being probably due to error. Medially certain combinations are permitted, though it is not easy to determine these. Thus, *lalak-na*, "go for geese," becomes by metathesis *lalkana*. Similarly, certain suffixes are varied in order to avoid unwieldy and harsh complexes, as *kai-s*, but *men-se* (interrogative); *uta-kma*, but *inis-mak* (plural). There appears also to be a feeling for vocalic harmony, and some suffixes are varied to the end that their vowel may correspond and harmonize with the characteristic or stem vowel of the word. Thus *sumi-ri-ni*, but *towo-ro-ste*; *xana-ksa*, but *tare-kse*. Again certain vowels seem to be dominants and survive in assimilation or elision. Thus the past tense suffixes *-is* and *-in* are dominant and *-kne-is* becomes *-knis*; *-pu-in*, *-pin*. A thorough phonetic study of the language would doubtless codify all these rules and elucidate many others.

PARTS OF SPEECH

Mutsun recognizes as parts of speech the noun, pronoun, verb, adjective and particle, though, as in English, the division is a more or less artificial one, the lines of demarcation are not hard and fast, and it is sometimes difficult to assign properly a given word, which may not uncommonly function in several categories without change in form.

NOUNS

The great majority of Mutsun nominal stems are dissyllabic or trisyllabic. A few of the most common stems, such as many body-parts, are monosyllabic, and a very few apparently polysyllabic stems are found. Nominal stems appear never to be compounded and are varied only by the addition of a few suffixes. Stems appear to begin and end with either vowel or consonant without discrimination, and there seem to be no categories of stem types, such as for animate or inanimate, natural or arti-

ficial. That is, it is not possible to infer from the form of the word or from its suffix the category to which it belongs. Yet there are a few etymological suffixes in occasional use. Those making verbs are given below; those forming nouns follow here.

Etymological Suffixes of Nouns

1. *-n, resultative, infinitive.* Suffixed to verbal or other stems denotes result or phenomenon of an act.

noso-n	breath, spirit, soul
sike-n	flatus
paine-n	menstruation
oṭaio-n	wound
sawe-n	song

Possible cognate:

tor-on	amole
xasi-on	shame
mira-mi-n	gift
es(x)e-n	dress
isme-n	sun

2. *-s, -s-e, (-se, -si), causative, abstractive.* Suffixed to verbal or other stems denotes cause or phenomenon of an act, and is generally used with words of abstract significance.

una	cure	una-s	remedy
ritca	speak	ritca-s-e	language
isut	dream	isut-s-e	a dream
kapal(a)	embrace	kapala-si	an embrace
kai	hurt	kai-s	pain
eṭe	sleep	eṭ-se	sleepiness
xase	become angry	xa-s	anger
xemṭso	silent	xenkoṭaṭe	silence

Probable cognate is:

3. *-pis, (-mis, -sis), instrumental.* Suffixed to verbal or other stems denotes instrument or means for the performance of an act.

xewe	cast shadow, reflect	xewe-pis	shadow, reflection
at-ue	watch	at-as-pis	lookout
eyes	beard, shave	eyes-pis	beard-napkin

itok	cleanse	itok-pis	table-cloth, napkin
roro(s)	play	roro-mis	toy
isme-n	sun	isme-ais	clock
sukumu	smoke	sukumu-s-pis	end of cigar

4. *-msa, (-nsa), instrumental.* Suffixed to verbal or other stems denotes instrument or means for the performance of an act.

humiri	baptize	humiri-msa	baptismal font
ene	write	ene-msa	eraser, blotter
ama	eat	ama-nsa	meals
tcala	urinate	tcala-msa	bladder
iisi	owe	isi-msa	debts

Probably also:

unupimsa	handkerchief
rotemsa	papers
siamalpimsa	confession
yisuwaininsa	corns

5. *-pan, -pañ, agentive.* Suffixed to verbal stems denotes the more or less habitual doer of an act or the exponent of a quality.

yume-pañ	liar
maxer-pan	one who makes sport of another with the eyes
notio-pañ	one who denies the truth
nimi-pañ	beater
yoso-pañ	lustful, lecherous
latue-pan	one who is always making signs with the tongue
ol-ue-pañ	one who signals with his hand
piteiwi-pan	cleanser of hair
li-pan	hider
nimi-pan	striker, hitter

Other isolated examples of etymological nominal suffixes are:

ruk	cord	ruk-esma	doubled cord
upu	buy	upu-nsatpa	payment
usupu	fast	usupu-hai	Lent, time of fast- ing
mai-xi	laugh	mai-t	a laugh, laughing
mira	give present	mira-x, mira- mi-n	gift
koxo	load of meat	koxo-enis	bringer of load of meat
pux-ťa	make bread	pux-uťs	bread

krak-e	name, call	krak-at	a name
soko-te	laurel	soko-tei	laurel fruit
ri-te	decorate with beads	ri-te-ni	feminine adorn- ment
mukur-ukispu	act like a woman	mukur-ma	woman

Reduplication seems to play an unimportant role in Mutsun morphology. A few words are found in which the first syllable is reduplicated but there is no evidence that the phenomenon is of any morphological importance. Practically all of the instances occur with names of animals or plants.

mumuri	fly
mumulaluk	butterfly
lalak	geese
lukluk	geese
kakari	raven
soksoKian	sensonte
porpor	cottonwood
to-olua	plantain

Morphological Suffixes of Nouns

The Mutsun language is a comparatively simple one morphologically, being quite comparable to modern European languages in this respect. But few changes in inflection for the declension of nouns and the conjugation of verbs are found. These will be noted below.

The noun is inflected for differences in number, case, and in some cases even for person. Gender is, as commonly in American languages, not recognized, unless in sporadic etymological categories.

Many, if not all, animate nouns take a pluralizing suffix. This is:

6. *-kma, -mak, plural.*

sini	boy	sini-kma, sin- kma	boys
		ataspis-mak	lookouts
		uta-kma	parents
		uhinis-mak	fishermen
		uras-mak	hole-diggers
atsia	girl	atsiai-kma	girls

<i>pasear</i>	(Sp.)	<i>pasear-is-mak</i>	passers-by
		<i>wateir-on-mak</i>	the Guachirunos
<i>ka</i>	daughter	<i>ka-kma</i>	daughters
<i>inis</i>	son	<i>inis-mak</i>	sons

It is also used with substantive adjectives.

-kma is doubtless the original form and is used after a vowel, *-mak* being employed after a consonant to avoid harsh complexes, though there are exceptions.

There appears to be no dual number.

The various nominal case relations are expressed by suffixes which may be interpreted as postpositions, but are probably as correctly explained as true case inflections. These are:

7. *-was, -uas, compositional, partitive, material.*

<i>ores-was</i>	<i>tap</i>	hide of bear
<i>xut--was</i>	<i>toŋe</i>	meat of belly
<i>xurek-war</i>	<i>ruk</i>	cord of sinew
<i>orpe-was</i>	<i>eŋse</i>	middle of night

8. *-me, terminative.*

<i>patre-me</i>	into the house of the Padre
<i>me-me</i>	to you, with you

9. *-se, -s-e, -ne, -he, objective.*

<i>aisa-ne</i>	(see) them
<i>kairka-s-e</i>	(try) pinole
<i>moro-s-e</i>	(hunt) moles
<i>krakat-se</i>	(know) name
<i>kapxan-ne</i>	(strike) three
<i>inu-se</i>	(take) road
<i>soton-he</i>	(blow) fire
<i>etc.</i>	

10. *-sun, -sum, -um, instrumental.*

<i>ak-sun</i>	(die) of hunger
<i>mait-sun</i>	(die) of laughing
<i>ŋala-sun</i>	(die) of heat
<i>ekweŋs-sum</i>	(conceived) in sin, (choked) with sin
<i>xai-um</i>	(speak) with the mouth
<i>urkan-um</i>	(thresh) with the mortar

11. *-tka, -tak, locative.*

tapur-tak	(hung) in tree
urkan-tak	(grind) in mortar
xumes-tak	(hidden) in grass
oŋe-tka	(speak) in ear
wima-k-tak	(wound) in wing
ekwaestŋi-tak	(wallow) in sin

-tka seems to follow vowels, *-tak* consonants to avoid complexes.

12. *-ŋu, comitative.*

tanses-ŋu	(eat) with younger brother
ap-a-ŋu	(dance) with father

A possible suffix with more the force of a postposition is:

13. *-tun, -tum, regressive.*

tina	here	tina-tun, tina-	from here
		tum	

In the case of terms of relationship there are sometimes diverse endings according to the grammatical person. Thus:

		1	2	3
		14. -s(ŋ), "my,"	15. -t(ŋ), "thy,"	16. -n(ŋ), n, "his,"
apa	father	apsa		
ana	mother	ansa		
taka	elder brother	taksa		taknan
tare	younger brother	tarekse	tarekte	
taha	elder sister	tahasa		tahanan
papa	grandfather	papsa		
et-e	grandfather	et-se		
tcire	grandmother	tcirsi		teinin
xan-a	wife	xan-aksa		xan-an
sit	child			sitnun
me(ne)	grandmother	mense		menen

The basis of this is plainly an infixation of *-s-* before the characteristic vowel for the first person possessive and the substitution of *-nŋn* for the third person, where *ŋ* represents the characteristic vowel. The *ŋk* of *tar-ek-se* and *xan-ak-sa* are sporadic. This may be the vestige of a once fully functional genitive case. No other instances are found in the language. The *-t-* of the second person is very dubious.

PRONOUNS

The pronoun, as before stated, is independent and never morphologically welded with the verb or other part of speech. The six representatives of the two numbers and three persons are distinct and those of the third person seem to have little or no demonstrative force. The case endings, particularly the *-s* of the objective, are suffixed also to the pronouns. The possessive pronoun is often identical with the subjective form, though generally one form is exclusively subjective. The pronoun has a tendency toward combination with other pronouns and particles. Thus we find such forms as *ka-mes*, "I-you," this being the most frequent; *kat* (*ka-et*), "I in future time"; *kas-hiha*, "I also."

The pronominal stems are monosyllabic or at the most dissyllabic and quite dissimilar for the various persons. The first and second personal plural pronouns, however, commence with the syllable *mak-*, doubtless cognate with the pluralizing suffix *-mak*.

Demonstrative and adjectival pronouns are numerous and invariable.

Detailed lists of all classes of pronouns will be found in Part II.

VERBS

The typical Mutsun verbal stem is dissyllabic, ending in a characteristic vowel. This may even be the invariable rule, apparent infractions and exceptions being due to error or presence of unsuspected etymological or morphological elements. The characteristic vowel is not inalienably welded to the stem, since certain infixes are added between stem and characteristic.

Like nouns, verb stems take no prefixes, all morphological mechanism being attained by means of suffixes. A few solitary examples of possible verb-stem combination have been found which may be differently interpreted on fuller acquaintance with the language.

up-xi(ni)	roll, fall (scissors)
xin(e)	go, walk
up-uru(ni)	slip, fall (person)
uru(ni)	fall
up-ki	roll, seize (log)
at-ki	break, seize (log)
at-e, atse	break

Reduplication of verbal stems is practically unknown in Mut-sun. A few sporadic cases are found, however, which seem to have the iterative significance frequently denoted by this means in American languages.

polso	painted	polpolsi	dotted, streaked
tule	knock	tultul-e	palpitate
		pulpul-e	palpitate
tipe	wander	tiptipe	wander

It is a difficult and largely an artificial task to separate verbal particles into etymological and morphological elements. Nevertheless certain of these appear to belong to the former category and others may be placed there merely for the lack of evidence of morphological significance.

Etymological Suffixes of Verbs

17. *-te, possessive.* Suffixed to nominal stems denotes possession of the object.

otco-te	possess ears
kraka-te	possess name
sitnun-te	have children
pultei-te	have full breasts

18. *-kis-, (-wis-, -pwis-), imitative.* Suffixed to nominal or other stems denotes imitation of person or act. The reflexive suffix *-pu* is normally added.

mam-anxa-kis-pui	act like a fool
mukene-pwis-pu	act like a man
mukuru-kis-pu	act like women
monsie-kis-pu, (-wis-pu)	act like a sensible person
sawe-wis-pu	pretend to sing

19. *-na, purposive.* The verbal suffix *-na*, "go to do," functions also as an etymological suffix to noun stems, denoting in this case "go for."

lalak	geese	lalka-na	go for geese
sirak	nuts	sirka-na	go for nuts
weren	rabbit	were-na	go for rabbits

20. *-mi, dative.* Likewise the verbal suffix *-mi* may be suffixed directly to nouns, functioning as an etymological suffix and denoting gift of the object. It is generally or always used with the imperative and the first person singular object.

ruxe	arrow	ruxe-mi-tit	give me arrows
ma-ter	tobacco	ma-sue-mi-tit	give me tobacco
setne	acorn-bread	setne-si-mi-t	give me bread

21. *-ti, substantive.* A possible substantive suffix is found once:

tanses	brother	tanses-ti-(s)	be a brother
--------	---------	---------------	--------------

22. *-u-, oppositional.* Infixed before characteristic vowel of verbal or other stems denotes significance opposite to that of simple stem.

xi- <i>ṭ</i> -a	sew	xi- <i>ṭ</i> -ua	rip
pi- <i>ṭ</i> -e	tie	pi- <i>ṭ</i> -ue	untie
pa- <i>ṭ</i> -i	seize, grab	pa- <i>ṭ</i> -ue	loose
rotko	knot	rotuk	untie knot
kitca	lock with key	kitcua	open with key
rotcio	enveloped	rotciwe(wi)	freed
teuni, ṭunuu	fold, pleat	teunuhwi	open, unfold

23. *-r-, excessive.* Followed by the characteristic vowel appears to denote a psychological cause for the condition described.

sumi	be content	sumi-ri-ni	sleep from satiety
siwi	burn	siwi-ri-ni	sunocate from heat
towo	be rigid	towo-ro-ste	be stiff from cold
seso	shiver	seso-r-po, (seso-n)	shiver from fear

24. *-ṭ-, corporeal.* Followed by a vowel in harmony with preceding one generally refers to action with or on parts of body.

latue-ṭe	long tongue, (he) extends his tongue
l-el-uer-ṭe	roll (eyes) too much
kai-ṭi	tighten (it)! make (it) fast!
rau-ṭa-smin	with large occiput
mup-ṭu	shut your mouth!
pelṭe, peṭe	shut eyes
peṭe(ni)	keep mouth closed
poṭo	pluck hairs
kaṭaṭa	cross hands

25. *-te, -ti, (-it)*.

tere-ti-s	(you) have cut (your hair)
nam-ti, nam-it	(I have not) understood, heard
kili-te	(it) sparkles
yaṣa-ti, xop-o-ti,	(did he give you) anything, a drink,
ilsi-mi-ti, olte-mi-ti	meat, pinole?
insu-ti, insu-te	(you) know (it)
upxi-ti (or upxi)	(let me) drink a little
wipa-ti	(will) invite (you)
ole-ti	(I) seized (it), (what) could (you do?)
ina-ti-s	(I) became sick
esoni-ti	(you) hate (the language)
lopx-ti-ni-n	grew mouldy (wheat)

Possibly the same suffix is found in the imperative with first person singular object, *-t* or *-ti-t*. It is a doubtful suffix; no attempt is made to explain it.

26. *-wi, -we*.

inu-wi-me-i	remind (him)!
rus-u-wi-kne	spit
ṭip-wi	(you) shorten (confession)
nansa-we	(he went) to try
pak-a-we	(may they) gather (them)!
lala-wi-s	he threw him

27. *-si*.

xasiwa-si	scratch the boys' heads!
xeksio-si-n	(have you) satisfied (him)?
xima-si-kun	(we) have searched for (them)
mexe-si	(let me) be seeing; look!
paṭi-si	(that which) he has in his hand
nan-mi-si	(I) was listening (to them)
pak-a-si	he seeks (us)
puṭi-si	(I) am blowing (the fire)
uṭa-si-mi-t	guard me!
at-se-i	break it!
xelue-si-tit (xelue-mi-tit)	flay, strip for me!
musi-si	(child) is sucking

This suffix may be cognate with the mandatory *-si* (No. 45) but the resemblance is not evident.

Other possible etymological suffixes are:

rukesma	a doubled cord	rukesma-te	make countless interweavings
xotio	a bag	xotio-(si)-nme	(order to) make a bag
ruk-a	house	ruk-sap-(in)	(they have) made houses
maṭ-er	tobacco	maṭ-uk-(ti) maṭ-ere-gn-in	give (me) tobacco (he) was intoxicated
wi-xi	fish	wi-ni	catch fish
tor-on	amole	tor-ke	bring amole
xasi-om	shame	xasi-mun	be ashamed
xan-an	wife	xan-an-mi-(n)	(was) married
xakua	mussels	xakua-ikus	I went for mussels

Morphological Suffixes of Verbs

The verbal stem is variously modified for considerations of tense, voice, various modal significances, and to some extent for number.

The unmodified stem is used alone for the present tense and with temporal adverbial particles to express the future.

The most frequent temporal suffix is *-n*. This is generally translated by the Spanish preterit, but frequently also by the present. It may have an indefinite or aoristic sense, or denote incompleteness or continuance of action, and is found mainly with intransitive verbs.

28. *-(i)n, indefinite.*

totio-n	(whenever I) err
tio-n	(I) shoot (with my left hand)
ilo-n	(whenever a house) burns
towo-n	(you will be) frozen
ketio-n	(I) argue (with him)
yaṭi-n	(he) follows (you)
xaṭi-n	(I) am dying
xirwi-ni-n	(rain) is ceasing
tursi-ni-n	(he) is cold
terpe-ni-n	(I) have peppered my throat
tempe-ni-n	(soon the river) will dry up
loe-ni-n	(he) nauseated (you)
letse-ni-n	(I) liked (that)
isiwe-n	(when they) rest

29. *-(i)s, past tense.* This is less common than *-n*. It appears to be a more definite past and is found mainly with transitive verbs.

yoreti-s	(he) chased (me)
katia-mi-s	(he) gave (you)
mistu-s	(you) warmed yourself
mexe-npi-s	(I) have seen (them)
wipa-s	(I) invited (you)

30. *-(i)kun, past tense.* This is the less frequent past ending and appears principally with transitive verbs. It is probably the most remote of the past tenses, but as all three of these are regularly translated by the bare Spanish preterit, it is most difficult to delimit their respective spheres. The examples seem to imply completion of action.

uxsini-kun	(you) have increased
uŋui-kun	(I) guarded (it)
uxei-kun	(I) have guarded (it)
oiol-kun	(he) seized (it)
oisio-kun	(it) happened again

The distinction between the categories of intransitive and transitive is not as close as in many Pacific languages, and there is no invariable designating particle for either. Certain suffixes, however, pertain to one or the other type. One of the commonest suffixes in the language is *-ni*, which appears on the whole to be a kind of intransitive suffix.

31. *-ni, intransitive.*

orko-ni-n, (orko-ste)	(we) were frightened
inu-ni-n	(you could not, imagine (me)
in-u-ni-n	(I) awoke
istu-ni-n	(I) dreamt of (you)
(wate-na) xamu-ni-n	(fire) is dying, (is-going dying)
(wate-na) lak-e-ni-n	(sun) is rising, (is-going rising)
eme-ni-n	(I was going) to forget (it)
inx-a-ni-n	(I) am sick, have become sick, (you) are sick
muk-ie-ni-n	(I) am old woman
semo-ni-n	(it wants little time for me) to die
tursi-ni-n	(he) is cold
ŋupu-ni-n	(I) put my finger in my eye
suiu-ni-n (suiu-ste)	it was finished, consumed, used up
ŋieku-ni-n	(did this) break?
xupse-ni-n	(my hair) is fixed and prepared
xasli-ni-n	(be ye not) sad
<i>ad infinitum</i>	

The nearest approach to a transitive suffix is *-np*, which seems to express action directed toward another person.

32. *-np(e)*, *transitive*.

tiiti-np-in	he defended (me)
iteo-np-itit	pull me out!
tolso-npe	(I will) break (your feet)
lilui-npe	(we will) amuse (you)
ruima-npe	do not disturb (him)
munsu-npe	(ye have) soiled it
mus-i-np-itit-yuť	warm ye me!
mene-npe	(how can I) forget (you?)
mane-np-in	(has he) forgotten (ye?)
ťupu-np-in	(I) put my finger in (his) eye

Reflexive relations are very frequent and expressed by the suffix:

33. *-pu*, *-p*, *reflexive*.

lixin-pu	I will kill myself
lix-p-in	she killed herself
ita-pu	(do you) wash yourself?
eyes-pu	shave oneself
tcai-pu	praise oneself
axa-pu	(have ye not) combed yourselves?
xať-a-pu-i	hit yourself
tak-e-p-is	(I) measured myself
orko-p-in-se-me	did you frighten yourself?
un-pi-na	(I) am going to cure myself

In many cases *-pu* appears to be used idiomatically, the reflexive function being obscure.

	buy	upu-s-pu	sell
uni	crave, wish	uni-s-pu	consent
inu	awake, remember	inu-s-pu	observe, know, see,
	ber		feel
nip-a	teach	nip-a-p-in	they will teach
			(him never)
ritea	speak	ritea-pu	play, entertain

Reciprocal relations are expressed by the suffix:

34. *-mu*, *reciprocal*.

xaťa-mu	let us fight
lix-mu	we will kill each other
keye-mu	(do not) trample each other
ia-u-mu	play together!
huteu-mu-ť	lift each other!

The passive voice is of considerable importance in Mutsun morphology and seems to be preferred to the active as a method of expression whenever possible. It is expressed by the suffix:

35. *-kne, passive voice.*

mexe-kne (me)	(you) will be seen
mira-kne (me)	(you) will be given a gift
mupa-kne (nep-e)	(this) is sucked
ole-kne	(they) are (not) caught
like-kne (me)	(you) will be killed
lokuk-kne (xin)	(the eye) is put out
lala-kn-is (haka)	(he) was thrown down
ut-u-kne (nep-e)	(this) is guarded
liwa-kn-is	(arrow) was hidden
maṭ-ere-kn-in	(he) was intoxicated

Probably cognate with this is the suffix *-ne* with which it is in cases interchangeable. *-ne* often denotes a future passive, at other times its exact use is not clear.

36. *-ne, future passive.*

nansa-si-ne	(when we) try
mexe-si-ne	(you) will be seen
yume-si-ne	(you) will be cheated
xiraste-pu-ne	will (you) be reprimanded?
eise-kte-ne-s	have (you) shaved yourself?

Another suffix with a passive force is *-stap*. This seems to refer entirely to completed passive action, and a great number of the examples noted have a first person singular subject.

37. *-stap, perfect passive.*

ruta-stap	(feathers) recently pulled
pele-stap	(with what) was (this) stuck?
potsie-stap	(I) was censured
katia-stap	they gave rations
ixtci-stap	(he) was bitten by a snake
liki-stap	(I) was killed
xise-stap	(the fat ones) have been selected
mutiku-stap	(I) have been tickled

The modal categories are considerably less extensive than commonly in American languages but rather better developed than in Indo-European.

The imperative is expressed by suffixes varying for number and person of subject and object. Thus:

<i>Imperative</i>	<i>1st pers. obj.</i>	<i>Intransitive or 3d pers. obj.</i>
2d pers. sing. subj.	38. -t, -tit	39. -i
2d pers. plu. subj.	40. -tyuṭ, -tityuṭ	41. -(i)yuṭ
xima-t		seek me!
ima-t		show me (it)!
oltemi-tit		give me pinole!
ip-e-i		turn around!
oio-i		seize it!
xima-i		seek him!
ok-wo-i		send them!
ot-emi-tit-yuṭ		give me pinole!
sumua-ti-yuṭ		give me wood!
oṭo-yuṭ		go for atole!
otciko-yuṭ		be quiet!
laisaisi-yuṭ		sing slowly!
at-e-ti-yuṭ		give him!
ara-ti-yuṭ		give him!
huteu-m-uṭ		lift each other!

Another suffix with an imperative force is *-is*. This implies going to some other place to accomplish the command and may be termed the

42. *-is, missionary imperative.*

monse-is	go and tell (them)!
sak-a-is	go and bring (pinole)!
ṭaska-is	go and walk (in the field)!
etue-is	go and release (it)!
oi-is	go and get (it)!
xi-is	go for fire!

There appear to be some terminations having the effect of a subjunctive. These are:

43. *-tkun, subjunctive, hypothetical.*

ara-tkun	(you) should give (him)
kati-tkun	thus should (I dress)
ko-tkun	(you) should tell (me)
ko--tkun, kwo--tkun	
on-o-tkun	(he) would have made sport (of you), speaking (of you) after death
oi-tkun	(I) would get (it if I wanted it)

44. *-kane, conditional.*

ole-ti-kane	if I could only catch them!
toko-kti-kane	if the bed is of
tax-kane	when it is asked
ak-niu-kane	when he is thirsty

There may be some relation to the passive particle *kne*.

Iterative or frequentative relations are expressed by the suffix or infix *-s*, placed between the stem and the characteristic vowel.

45. *-s, iterative.*

ak-u	enter	aksu	many enter
ele-pu	go	else-pu	many go
epe	pass	epse	many pass
semo(n)	die	semso(n)	many die

De la Cuesta pays considerable attention to this suffix in his grammar, suggesting that it is frequent with every verbal stem. Strangely, very few unquestionable examples of it are found in the phrase-book.

Probably the same morphological element is that found in many cases following the characteristic vowel, particularly before the reflexive *-pu*, denoting in that case plural or iterative reflexive. It is also commonly found in words denoting occupations, i.e., one who performs an act continually. Compare the nouns denoting personal categories in Part II.

amae-s-pu	(do not) amuse yourselves
roroi-s-pu	(do not) disport yourselves like boys
siole-s-p-is	(we) were talking among ourselves
xewe-s-pu	(we) both look together into the mirror

Other usages are more idiomatic and less evident.

ritca-is-pu	recount, converse (ritcapu, play)
upu-s-pu	sell (upu, buy)
siole-s-pu	(they) are solitary and sad
mexe-s-pu	(like as he) looked

The mandatory or causative relation is expressed by the suffix:

46. *-si, (-se), mandative.*

xotio-si-nme	you have ordered that they make a bag
mana-si-s	(you) commanded to extinguish it
aŋa-si-s	(you) commanded (me) to steal
pina-se-s	did (I) order this?

Three relations implying motion are of importance in Mutsun. The first, *-na*, denotes motion to a distant place or outdoors.

19. *-na, purposive motion hence.*

lixni-na	(he) is going to kill (it)
xiisi-na	(I) am going to catch (them)
paita-na	(let us) go and catch (them)
wate-na (lak.e-nin)	(sun) is rising; (going-rising)
wate-na (weterere-nin)	(it) is increasing; (going-increasing)
ereksi-na-ka	I am going to bathe

The second, *-su*, denotes motion to a nearby place or indoors.

47. *-su, purposive motion hence.*

nam-isi-su	(I) am going to hear (them)
ertse-su	(I) am going to supper
were-su	(I) am going to catch rabbits nearby
etste-su	(I) am going to sleep

The third, *-inyi*, denotes motion hither.

48. *-inyi, (-im), purposive motion hither.*

liw-inyi	(I) come to kill (you)
monse-im	(I) come to advise (you)
nesep-inyi	(we) come to beg permission
pasip-inyi	(I) come to salute (you)
warep-inyi	(I) come to visit (you)

A very rare and doubtful suffix, *-knit* (misspelled in the grammar as *guit*, or *uit*), has been termed "prohibitional."⁸ This may be the passive *kne* plus the future adverb *et*; i.e., "you must not be struck."

49. *-knit, prohibitive.*

tamta-knit, xaŋa-knit	he must not strike you
-----------------------	------------------------

A second very obscure suffix, *-ksi*, is translated by De la Cuesta "perfectly well," *perfectamente bien*, and is termed by Kroeber "excellative."⁹

50. *-ksi, excellative.*

xeksio-ksi	(let me) satisfy (him)
ruisiu-ksi	do not (ye) tremble
ruisu-kai	(your hand) trembles
nipa-ksi	(we) are teaching (him)
rinsi-kai	(they) take the lower (key)
siaksu-ksi-t	(speak) to me softly (in my ear)
xaune-ksi	(would that) someone would bring (water)
siru-ksi-ste	(it) is pulverized
polso-kai	(what is this) painted?

⁸ The Chumash and Costanoan Languages, *op. cit.*, p. 253.

The verbal suffix *-mi* (cf. nominal suffix *-mi*) seems to denote an indirect personal object or an action done for the benefit of a person. It is most frequently found with the imperative and first person object, "do this for me."

20. *-mi, -me, beneficial.*

katia(stap)	gave (food)	katia-mi(s)	gave (clothes to thee)
xelu(ksi)	strip off bark	xelue-mi(tit)	strip bark (for me)!
monse(t)	advise (me)	monse-mi(tit)	advise (me)!
monsie	relate	monsie-mi(tit)	recount (me)!
		monsie-me	relate to you
riri	put selvage on	riri-mi(tit)	put selvage on (for me)!
iisi	owe	iisi-me	(you) owe (me), (I-you)
musi-si	suck	musi-mi	suckle, give suck
tika	chew	tika-mi(t)	chew (for me)!
etc.			

Two suffixes of the greatest frequency are evidently cognate. These are *-kte* and *-ste*. The former is listed by De la Cuesta merely as a preterit tense suffix, the latter, though of frequent occurrence, not mentioned at all, though a suffix *-miste*, probably a hortatory, is described.

Both seem to have the sense of a past participle, and, like the latter, are frequently used adjectively. They express completed action or achieved condition. Though little difference is discernable between the two, it would appear that *-kte* is used principally for transitive relations, *-ste* for intransitive ones. They are frequently translated by the Spanish *ya*, "already."

51. *-kte, (-xte?), perfect transitive (participle), adjectival.*

mit-ci-kte	(bow) is unstrung
esko-kte	(it is) torn, impure
riṣe-kte	(it) is decorated with beads
laki-kte	(it) is lifted, hung
tolo-kte	(they) have donned their regalia
lip-a-kte, lixwa-kte	it is hidden
liisu-kte	toothless
posio-kte	hairless
riski-kte	pug-(nosed)
sitl-u-kte	small
niotsio-kte	short
husiero-kte	big (mouth)
nutiri-kte	big-nosed

52. *-ste, perfect intransitive (participle), adjectival.*

xiwa-ste	(they) have (not) arrived
semso-ste	(they) have died
toilo-ste	(they) are seated
pelke-ste	he was displeased (at me)
xuten-ste	(he) has eyes
kome-ste	(I) am tired already
wane-ste	(I) am satiated
siksa-ste, mikna-ste	it is soiled
sesuk-ste, sumu-ste	(it) has decayed
unxu-ste, (unxu-amin)	snotty
natka-ste	black
rinta-ste	lean
noiro-ste	large (feet)
<i>ad infinitum</i>	

The interrogative is expressed by the suffixation of the enclitic *-s, -se*. This may be suffixed to other words than the verb, more commonly to the initial word of the phrase. Thus:

53. *-s, -se, interrogative.*

kan-se	is this my . . . ?
kai-s	it is painful?
ekwe-s	did not . . . ?
lalka-na-s	did (you) go for geese?
men-se	did you . . . ?

-s regularly follows a vowel, *-se* a consonant, thus avoiding terminal consonantal complexes.

The negative is formed by the independent particle *ekwe*. *epsie* is sometimes used with negative imperatives, but the more common method in this case is the use of the bare pronoun *men*.

Some of the isolated and unexplained suffixes, indicated by italics, are:

siru- <i>mpi</i> , siru- <i>mpe</i> (siru-ksi-ste)	grind (salt); (ground)
man-ti-kte; man-toi-s-te (man- <i>sa</i> , man- <i>as</i>)	it went out; is going out (put it out!)
yoko- <i>rte</i>	(cigar) has become ash
menso- <i>rte</i>	(they) have drowned
mup-il-u- <i>rte</i>	(boy) keeps his mouth closed
ainwe- <i>iam</i>	(you said you) went to see (him)
paka- <i>inini-s</i>	(he wanted) to find (us)
ole-mo- <i>sopo</i>	(he) can (run) well
ton- <i>se-s</i>	(I) met (him)
ton- <i>enp-is</i>	(I) lost (this)
tiaku- <i>kse-i</i>	split it!

<i>kil-e, kil-ile, kil-pulme, kil-its</i>	sparkle
<i>kipi-ni-pu-i</i>	wink (your eyes)
<i>kai-nawin</i>	narrow, difficult
<i>kute-kets-i</i>	very well tied, very strongly bound
<i>satar-a, satar-e, satar-pu</i>	open the mouth
<i>tcite-sin-i</i>	dance for me!
<i>sam-urui</i>	(they all) have long hair
<i>sam-aipu; sam-ianto</i>	(I), (they all) cut their front hair
<i>xute-punk</i>	fire is made
<i>xit-kin</i>	(I will not) cleanse myself
<i>nansi-ke</i>	(you will soon) be known
<i>reksio-ie-i</i>	satisfy (him)!
<i>xase-sen</i>	(teach me before I) get angry!
<i>xat-zasti; xat-zatsi</i>	it is well swept; very clean
<i>nip-a-pin</i>	(they will never) teach him
<i>lop-kti-nin, lop-xe-ste</i>	(wheat) moulded
<i>ipi-re-i (ip-e-i)</i>	turn (this)! (turn around!)
<i>ina-ti-s; ina-k-pu</i>	(I) became sick; (will you not) be- come sick?
<i>we-solo-kte, we-yoro-kmin,</i>	large, great
<i>we-sare-kte</i>	
<i>we-tan; we-tere-npe-i</i>	is great; increase it for me!
<i>yer-oepin</i>	(he is) growing old
<i>matala-mu-i; matalu-ni-stap;</i>	place face downward; (I) was placed;
<i>matula-ni</i>	(wait for him) to place himself
<i>mene-npo</i>	(I will not) forget
<i>mir-ma-mi-t</i>	give me that which you were given!
<i>mup-i-pu-i; mup-e-i;</i>	shut his mouth! shut his mouth with
<i>mup-il-u-rie;</i>	your hand! (he) keeps his mouth
<i>mup-us-pu-i; mup-ʔu</i>	shut; shut your mouth!
<i>mai-xi-ni-ste</i>	(they) laugh at (your speech)
<i>teorok-pumk</i>	we become sad (when . . .)
<i>ii-ps-is; ii-si-me</i>	(I) owed; (I do not) owe (you any- thing)
<i>ak-eni-ni-n; ak-niu-kane</i>	(I) am thirsty; (when) one is thirsty
<i>ekwe-na</i>	(I) have no (. . .)
<i>uni-apu, uni-spate, umi-spak</i>	(he wished) to agree
<i>ole-ri</i>	(you) can (not)
<i>inu-wi-me-i</i>	remind (him)!
<i>itma-ni-t; itma-nu-i</i>	lift me! lift him!
<i>it-wime</i>	(we have) corrected them
<i>inu-i-ni-n</i>	(I) am tired of journeying
<i>rui-su-kai; rui-siu-kai;</i>	(your hand) trembles; (do not ye)
<i>rui-sin-kai; rui-ma-np-in;</i>	shudder; (who) trembles? he
<i>rui-nga-t; rū-ki-np-in</i>	moved him; move me! I moved
<i>umsu-mi-n</i>	(they) flew
<i>wax-toi-i</i>	scratch (him)!
<i>ele-maw-pu</i>	(you) will arise (early)
<i>eṭ-os</i>	(he) slept (little)

ADJECTIVES

Adjectives display close relations with both verbs and nouns. A few of them appear to be definite adjectival stems without terminations, a small number seem to be derived from nouns, but by far the greater number are akin to verbal stems. As allied to nouns they may take the pluralizing suffix and stand as substantives, as *weyero-mak*, "the big ones." As allied to verbs they commonly take the verbal perfect suffixes *-kte* and *-ste* and may be interpreted either as verbs or as adjectives, e.g., "the cloth has been soiled," "the cloth is soiled," or "soiled cloth."

In addition to the verbo-adjectival endings *-kte* and *-ste* there are two others, evidently cognate, used solely with adjectives. These are *-kmin* and *-smin*. The distinction between them is not evident, as, for instance, both *nutka-kmin* and *humulu-smin* mean "black" (sing.) and *natka-mak* and *natka-ste* "black" (plu.). Other suffixes likewise seem to be interchangeable under certain circumstances, as both *orko-ni-n* and *orko-ste* mean "he was frightened;" *unxu-smin* and *unxu-ste* both mean "snotty." *-kmin* is probably cognate to *-kne* and *-smin* to *-ste*.

54. *-kmin, adjectival.*

<i>patka-kmin</i>	heavy, deep white
<i>pelo-kmin</i>	bald
<i>nutka-kmin</i>	black
<i>hihul-i-kmin</i>	something cut, as a pole
<i>isiwa-kmin</i>	newborn
<i>kuti-kmin</i>	very small
<i>kipinyi-kmin</i>	a winker
<i>kits-u-kmin</i>	twisted

55. *-smin, adjectival.*

<i>selpe-smin</i>	(are you) intoxicated?
<i>xop-tie-smin</i>	climber
<i>an-e-smin</i>	turtles
<i>ritca-smin</i>	liberal, generous
<i>waksa-smin</i>	miserable, vile
<i>ritcua-smin</i>	silly, foolish
<i>rauṭa-smin</i>	with large back of neck and occiput
<i>samili-smin</i>	putrified
<i>humulu-smin</i>	black
<i>unxu-smin</i>	snotty
<i>pelso-smin</i>	large-tongued, garrulous
<i>paisa-smin</i>	runner
<i>xase-smin</i>	brave, fierce

ad infinitum

An infix *-ti-* is occasionally found before adjectival endings. It is placed between the simple stem and the characteristic vowel. Its import is not clear but it seems to imply an adjectival-agentive sense.

56. *-ti-, adjectival-agentive.*

xop-e	climb	xop-ti-e (smin)	climber
teala	urinate	teal-ti-a (smin)	urinator
muxe	suspect,	mux-ti-e (ste)	one who makes
	misconstrue		wrong judgments
wilo	signal "yes"	wil-ti-o (n.in)	one who signals
	with the eyes		"yes" with the
			eyes

Another etymological element giving an adjectival significance is:

57. *-se, -si, adjectival.*

in-se	tear-ful
yer-se	torn
polpol-si	dotted

PARTICLES

Particles are independent and invariable. They range from monosyllabic to polysyllabic, the longer ones being probably compounded. For purposes of reference they are divided into locative adverbs, temporal adverbs, descriptive adverbs, and interjections.

Two enclitics are met. The first is a conjunctive, *-hiha* or *-hia*, "and, also, as well."

kas-hiha	me also
----------	---------

The second is an adjectival pronoun, *-sia*, "alone, only, solely."

men-sia	you alone
wak-sia	he alone

PART II. CLASSIFIED LIST OF STEMS

The following lists are arranged in the order of the phonetic alphabet. First the vowels, *a, e, i, o, u*, then the semi-vowels *w* and *y*, the nasals *m* and *n*, the liquid *l* and the trill *r*, the spirants *s, x*, and *h*, the surd stops *p, t, ʔ*, and *k*, and the affricative *tc*.

NOUNS

Animals

aiaraʔ	magpie
auni-smin, anni-smin	turtles
are	bird like a heron
asurian, asit	sparrow
aʔaʔ	magpie
akaʔ	conch
elei-min	goshawk
ex, hex	squirrel
eksen	quail
intkx	large hare
ipiwa	(rattle) snake
omkon	maggot
ores	bear
oʔol, oʔon	red ant
okom	bird
uminx	wolf
unteu-smin	black beetle
uraka	salmon
wawisacs, -ses, -soes, wakisacs	coyote
wal-en	owl
wasaka	eagle
wakaraʔ-smin	frog
weren	rabbit
wilo-pan	blackbird
wireekan	bat
wixi	fish
wipsur	fleas
yurah	black duck
maian	coyote
marite	young deer
mitis	little moulting bird (jestingly)
mumul-al-uk	butterfly
mumuri	fly
muniek, musiek	small bird with black feet

niwes	faun
notot	blackbird with yellow head
lalak	geese
lesokwa	earthworms
lisana	snake
luopo	yearling calves
lukluk	geese
rames	weasel
rax	white louse
rinya	rat
risui	young coyote
rumai	young hare
saiae	jays
sanraruk	large geese
sakar	nits
siol-ekon	mole like a dormouse
siuyuŋs	sea-otter
siul-il-uk	butterfly
sisin	small bird
siŋikna, siŋeikna,	young squirrel
sikikna	
sikot	mole
soksokian	bird like <i>sensonte</i>
swesusu	large ducks
xakua, (xaakan)	mussel
xun-un	small dove
hutee(kinis)	dog
paratu	woodpecker
penie, penik	cat
perisiana	young quails
pil-okian	martin
pitcina	maggot, insect
polokis	grasshoppers
polten	young rabbit
por	flea
poskoi-min	black ant
potol	blackbird with yellow head
pukwie, pukwi	young deer, young fallow-deer
pukului-min	toad
tamala	leopard (<i>puma</i> ?)
tatei	a small animal
tiwiem	fallow-deer
tiwituk	bird
tira-smin	spider
tixsin	skunk
tipih-smin	earthworm
tominis	seal
toroma	wild-cat
torpaes, torsiepa	gray blackbird

toṭe	deer, cattle, meat
ṭayankal	blackbird
ṭaiaskal	blackbird with watery eyes
ṭiwak	bird
ṭime	whale
ṭuilun	vulture
kaul-epat	bird with large mouth
karai	black louse
kakari	raven
kaknu	hawk
koṭewes	snakes
kulian	blackbird
teaxi	hawk
teeies	hare
teil-iskan	hawk
teirit-min	bird
teorena, teolteolua	cricket
teurutu	woodpecker

Botanical

aisaae, inkis-e	acorns
ama-knis	seeds
anii	a white tree
arwe	oak
ahamen	bundle of fire-wood
enena	blackberries
it-ux	a seed
owos	seed, fruit
ortor-kmin	hay
uwena	very pink flower
uner	wild onion
upiṭ	acorn shell
wara	an herb
yarkas	an herb
yukis	acorn
momox	a small, salty seed
morot	acorn shell
muren	an edible herb
lumuiimin	an herb
ransona	an herb
rapak	oak
repiṭ	acorn shell
reṭeṭi	blackberry bramble
riris	vine
ripin	oak
rore	an herb
ruskes	an herb
sawana	a thicket
sasuk	moss

sapa	herb with a dark, hard seed
sak	small pinenut
siutotok wetemak	poisonous plant
sirak	filberts, hazelnuts
sipuruna	a white root
somon	hole in a tree
sokoŋe	laurel
sokotei	fruit of laurel
sumna, sumua	sticks of wood
xale	green tule
xireni, (xirena, xiremi)	large pine-nut
xipur	a tree
xit-iani	tuna
xitna, xitia	elderberries
xikoŋ	pine
xolopis	shell, chaff of acorn
xop	larch, a red tree
xumes	hay
xumi-smin	wild rice
xur	seed
patax	willow
pat-i	chia
paŋ	tuno
pakir	plant like tule
piŋ-ui	seeds
porpor	cottonwood
porpor onien	tree like white cottonwood
pururis	small fruit
tamet	a dark edible root
tarax	small, white willow
tapur	tree, wood
tiwis	flowers
toinon	a small fruit
tuxe	oak
ŋapis	reeds, straw
ŋaki	fruit tree
ŋoŋolua	plantain
kamer	sweet herb
kamun	tuno
ketex	leaves
kiriŋ-smin, kiriŋ-skin	an herb
teasuni	hay
teatia	a well-known tree, testicles of hog
teisnan	alder

Body Parts

awis	left hand
eyes	beard
in	tears

isu, is-u	hand
ihatu	ear-cavity
iteie, itcik	pudenda
oloṭ	back of neck
otco, oṭe	ear
oṭs-io-n	bullet wound
una	bangs, hair on forehead
unux	mucus from nose
uri	hair
us	nostrils
watex	stomach
wel-ewel(min)	point of the lips
wima, wimak	wing
wilopa	the red head of the blackbird
yisuwani-nsa	corns
yutxa	tumor on neck
marax	skin
maxul	spittle, phlegm
mak-us	knees
mitla	thigh
moxel	head
moxoṭ	skull
mus	bosom, breasts
muṭis	front teeth
muktiokris, (muxtioxris)	ankle
noso-n	breath, spirit, soul
las-e	tongue
lasin	finger-joints
lit-akwa	veins
lom	brain
lopohs, lop-oṭs	navel
lup-us	anus
raras	molar teeth
riṭok	intestines
rikex piliu	prepuce of penis
romos, ruten	pimples, wart
rumes	spine, backbone
rus	saliva
sama	right hand
sanau	groin
sarka	blind eye
sapa-xin	pupil of eye
sinpur	eyebrows
sire	heart, mind
sip-os	feathers
sit	teeth
sik-en	wind broken, flatus
somsom	armpits
sok-o-s	testicles

soko-rena, sioko-rena	scrotum
sute	pudenda
xai	mouth
xahie	voice
xat-a	palm and sole
xakana	tail (of snake)
xelien	skin
xeser	birth-mark, scar
xin	eye
xorko-s	throat
xop-o	back, upper part of back
xumuṭ	skull
xunyois	arm
xurek	ligament
xupur	carbuncle
xutu, xut-u	belly, abdomen
paine-n	menstruation
pat-ian	blood
pakar	rash
pak-a	shoulder-blade
poteor	scalp sores
pusi, piliu, pat-os, patsa, pelsi	pudenda
put-u-s	belly, abdomen
put-us	thumb
tankar	roof of mouth
tap-is	crown of head
tak-e	ribs
takuṭspis	shin-bone
tima	forehead
tiras	buttocks
tolso, toolos	knees
toṭe	flesh, meat
tokol	syphilitic sores
turis	nails
turtunin	throat, neck
tuksus	ears
tup-ui, tupui	tail
tutper	lips
tukai	chest bosom
tukmur	Adam's apple
ṭamus	cheeks, face
ṭap	hide
ṭat-i	bone
ṭurum	skin
karkas	molar teeth
kapis	little finger
katak, katcak, kaṭak	nape of the neck, occiput
katcitci	pudenda

koro	foot
(kukas), xukas	anus, buttocks
teapal	kidneys
teiri	horn
te-oxo	pudenda
teukuri	evacuations

Manufactures, Instruments

an-ipu	pillow
aren	knot
axe-s	comb
ata-s-pis-mak	watch-towers
at-e	acorn-bread
ašin	feminine ornament
akaš	ornament of conch shell
eyes-pis	napkin
ene-msa	blotter, eraser
ene-kmin, enko-kmin	writing, letter
erešs	<i>real</i> , a piece of money
eaxen	dress, clothes
et-cer	iron
ešs	bed
eksen	nest
iiot	sacred stick, fetish†
imini	pinole
iru-kmin	arrow-point
isme-sis	clock, watch
itok-pis	table-cloth, napkin
oxoš	basket with handle
ot-eme	pinole
unupi-msa, un-opi-msa	handkerchief
ulis	basket
urkan	mortar
usek	whistle, flute
utis	arrow-point (arrow-shaft)
ušel	ear-ornament of feathers
uteir-min	small needle
walexin	small basket
ware	feather ornament
warsan	small basket
wetecok	small basket
yašan, lasun	net
yoxo	load of meat
mas	beads
mašer, mašer	tobacco
lawan	bow
rires	arrow-cord, spear-cord
rišai	rabbitskin clothes

riṭeni	feminine ornament
riṭs	coarse pinole
rote-maa	portfolio
ruris	bow-string
ruxe	arrows, spears
ruk	cord
ruk-esma	doubled cord
ruka	house
sak-in	broom
setne	bread of acorns and <i>momgo</i>
sianexan	skirt of tule or plants
siotok	basket for holding water
siwen	basket with a pyramid in the bottom
simirin	seed-gatherer
sinpie, siupia	handkerchief
sipirek	bone awl
sipuksan	large comb, brush comb
soxoi	ornament of beads and feathers
sokwe	atole
supik	small cloth
sutia	poker, digging-stick
xasa-pis	opening of pocket
xats-ian, xas-ian	ornament of conch-shell
xel-emok, xel-emon	cloth, rag
xitea-mis, xitsia, xiteha-mis	toy
xotio	bag
xotox	shoes
xurpu	beads, feather ornament
homoron	potsherd
humeren	bar
humiri-maa	baptismal font
palsi-n	muller of metate
parsex	belt, sash
pakuṭs-mis	ball for game
pelo-maes	comb of straw
piroi	net
puxuṭ, pupuṭ, puyuṭ	bread
tio-x, tio-s	spear, arrow without point
tiwix, tiwi	beads, feather ornament
tilai	basket with a good base
tirtisen	belt, sash
tipsin	small basket for amole
tor-on	amole
toko, tok-o	bed
tuyuwa	broom
tupen	sweathouse
ṭainwen, ṭaiuwen	bread of acorns and <i>momgo</i>
ṭalis	wooden awl

temox	arrow with point
tip-e	knife
kitirox, kitinox, kitirxo	skirt
kit.cas, kitcas	key
kurka, kurea	pinole
tcakar, tcawar	seat, chair
tcakini	stringless bow
teiles	bell
teopoma	fret, bric-a-brac
teokon	sacred stick, fetish?

Natural Phenomena

awar	north (<i>dedo de carazon</i>)
am-ani	rain
at-ar, atar	mud, mire
ak-e	day
ak-es, awes	salt
inu	road, trail
irek	stone
isin, isiin	hole (of animal)
isme-n	sun
ixutun	drop
urani	hole
upak	lump, clod, white paint
wakani	dew?
wakis	river, torrent
wixax	light?
wika	afternoon
yopok	hail
yokon	cinders, ashes
yumus isir	dirt on hands
mun	earth, dirt
mun-s	dirt, filth
murtei, murteis, murtocis	night
murteu	night
notson	food
laŋun	drop
raxopa	rays of sun
rokie, rokse	powder, dust
rutis	open hole, cavity
si	water
soton	fire
suw, sus	charcoal
skoxe	drop
xewe-pis	shadow, reflection
xiŋus	wind
xutepa	conflagration, great fire
pelek	fine dust, atoms

pire	world, atmosphere, weather, etc.
pitak	lint, dust
pitil-an	mole-track
pusninyis	whirlwind
tamar	hill
titin	seashore
taska, tatska	plain
tura	thunder
tuxis	day
kau	seashore
kar, kat	smoke
koloi	spring of water
kure	red paint
kutui	hole in ground
tearak	sky
tearko	light
tcape	hole in ground
teopolotesi	place full of holes
teok	clod, lump of mud

Words of More Abstract Significance

ak	thirst
ečina puatis	a game
eť-se	sleep
eketš, eketšs, ekaetš	sins
iwe, ik-e	a method of making fun of a person
impe-s	sign
isut-s-e	dreams
on-o	a method of making fun of a person
oro-e-s	hunger
oteiko	silence
us-ix	sadness
mai-t	smile
morke	a method of making fun of a person
muisin, yenko	love
layaya	length, height
laxi	game of revolving until dizzy
lat-laya	great height
rakať	child's game
ritca-se	language, speech
samili	putrid matter
sat-e	a method of making fun of a person
senena	sting of an insect
siamalpi-msa	confession

suwene	song
sunk, sune	hunger
xamapu	proof
xas	anger
xasi-om, xasi-un	shame
xenkotst-s-e	silence
xuṭi	game
paya	lightness
peleṭa	children's game
taula-si	something held in the arms
tursi	cold
ṭala	heat
ṭis, ṭihs	life
ṭuma	scent, pleasant odor
kai-s	pain, misery, sorrow
kapala-si	an embrace
kapnen	Wednesday
kotcopo	a method of making fun of a person
	son
krak-at, (xrak-at?)	name
teakir	odor
teopopiswai	Friday
teukuri	bodily evacuations, movements

Terms of Relationship and Personal Categories

ana	mother
ana-knis	stepmother
ap-a	father
apapaṭ	nephew, grandson
aṭia, atsia-knis, atcai-nis	girl
atsiai-kma	girls
aṭ maku-kmin	widow
ete, et-e	maternal grandfather or uncle
inis	son (father speaking of son)
inxoksima, yuxoksima	adult men, elderly men
iṇṭiṣṭe-mak	elderly men
isiwa-kmin	newly born child
ixatute	godmother
iṭxine	man (address term)
urxes-mak	bride and groom
uxi.	mother-in-law
uṭa	parents
mak-u, makas	husband
mene	maternal grandmother
meres, moeres	nephew, grandson
mirṭe-mak, mitṭe-mak	adult men, elderly men
mos	son (father speaking to son)
mukene	man

mukur-ma	women
mukniue-sima, mukienin	elderly women
sini, sinyi, sin-kama	boy, youth, boys
sit-nun	child, (foetus), baby (mother speaking)
sit-sus	stepchild (mother speaking)
xan-a, (xau-nan)	wife
paitcu-kte	man, person, cultured person
parane	grandmother
papa	mother's grandfather (maternal grandfather?)
taure, tauro	child (mother speaking)
ta, taha	elder sister
taka, tak-a	elder brother
tances, (tauses)	younger brother or sister, elder brother
tare	younger brother or sister
tefo-min	sister-in-law
tares, teares	men
tuta	young man
ka	daughter (father speaking)
teire	paternal grandmother
teorsi	maiden
an-pi-s	cook, toaster, roaster
ali-s	competitor
iwo-pan	liar, cheat, bully
ika-s-mak	millers
onei-a	companion
onei-kma-s-e	neighbors
un-e-mu	friend
ura-s-mak	hole-diggers
uhini-s-mak	fishers
uten-mak	wizards, witches
waixi-s-pan	angry donor, unwilling giver
wayas-mu	enemy
werxo-s-mak	deer-hunters
yawisun	Tulareños
lisieni-s	walkers
rite-pan	toreador
sirka-s-mak	nut-hunters
xawa-pis-mak	callers, shouters
xixon, koxoeni-s	meat-carrier
humais	countrymen
teye-s	cook, roaster, toaster
tikiro-mak	kneelers, those on knees
kotcino-knis, -kma	servant, boys
teite-s-mak	dancers

Numerals

emeŋtca, emeŋka, hemeŋtca,	one
hemeŋtca, emeŋtca	
emeŋŋpu	once
emeŋtoca	the one
uŋxin, uŋxin	two
uŋŋina	twice
uaxinya	they both
kapxan	three
usit, uŋit	four
parues, parnes	five
nakitci	six
ŋakitci	seven
taitimin	eight
watsu, pak.i	nine
tanaŋ, tansa-kte, matsu	ten

PRONOUNS

ka	I (subjective)
kan	I (subjective), my (possessive)
kan-is, kanis,	me (objective)
kas, (kak), (kax)	
kat	I (subjective with future particle)
kames	I you
kanmes	you—my
me	thou (subjective)
men	thou (subjective), thy (possessive)
mes	thee (objective)
met	thou (subjective with future particle)
waka, haka	he (subjective)
wak, hak	he (subjective), his (possessive)
haks, hakas	him (objective)
makse	we (subjective), our (possessive), us (objective)
mak	our (possessive), we (subjective)
mak-e, marke	we (subjective) (dual?)
mak-et, makset	we (subjective with future particle)
makam, ma-m	you (subjective), your (possessive)
makams	you (objective)
aisa, ai	they (subjective), their (possessive)
aisan, aiske	them (objective)
nuk	it (neuter objective), him (objective)

Demonstratives

ne, nep-e	this (close)
nepean	these
nane, nina, nemis, nenis, unta, ister, nep-er	this
nisia	this (farther)
nunis, nunisia, nup-i	that
nupean	those
numan	which, that which (relative)
pina	this (more distant)

Adjectival Pronouns

aipire	some
aimukte, aixames	all, exclusively
aman	so many
ams-e	the other
ani, anyi	another
at-ia	only, alone
exil-iste	alone
imin, imiu, imi-u	all (personal)
iruk	all
wasi(a)	much
yasir	much, very
niat, nihia, nuia, nua	only, no more
l-el-uerçe	too much
hisha	any
siok, siokwe, siwene	himself, itself
pisnie	nothing
tolon	much
teyo	much
ke-se, kes-e	much

Interrogative Pronouns

an. . .	where?
anpi, ampi	which?
at-e	who? whom? (singular)
at-ekin, at-ekinta	who? whom? (plural)
in-at, inuat	when?
inxam, inxan	how many?
inçis, (imçis)	what? why? where?
inka	what? (do)
inkai	what? (say)
ista	what? (thing), why?

VERBS

* The stems preceded by the asterisk are those occurring only once or twice and which therefore are more or less doubtful.

A

aiw, ainwe, aiuwe, axuwe,	see
airu, aipu, arxuwe	
*aisa-e, inkis-e	desire, crave
*airuwes	withdraw, depart
*anye	awake, awaken
ayi	come
*ayimi-ni	lose, stop
am	be (substantive)
*am(a)	speak truth
ama	eat
*ama-ni	appear
ameis, amaes	play
ami, ami-si	give, bring, hold, carry, preserve
amiu(m), amoi	teach
amne-ni, am-a-ni	rain, wet
amsa	endanger, injure
ana	pardon
*ana	desire to, long to
*ana-pu	be injured
*anure	bend, bulge backward
*ansam	paint
*ansemi	keep watch, be vigilant
*ale, luwi	break and leave place
ara, arsa	give
*arespi	quarrel, fight (between women)
*ars-e	observe, conceal
*arke-n	increase, grow
*arki-ni	take the road
*asa	part the hair
*asi-n	flow in (water)
asinu-n, as-nu	sneeze
*asiknene	hate
aski, askin, askun	cut
axa	comb
axe-niak-e-n	flee
*axi, arimi	give again
*axtu-n	break a tooth
*apere	chase flies with a branch
at	break, split
ata	examine
*at-e	insult, grumble, quarrel
*at-ia	cease talking, be silent
atue	view, watch

*at-nemi	correct, put right
*at-mu	quarrel, fight (boys)
*at(ki)	seize
at	steal, cheat
*aṭa	congeal
*aṭua	mend, fix
*aṭski	crack, split (earth)
ak-a	leave, depart
*akan	leave, permit
*ak-ara	look up
*ake, ak-e	rise, jump, get up
ak-u	enter
at-eun	make, finish

E

eies, eis-e	shave
eme, emse, enen	forget
*eme-ni	wait, detain
emre-n, hemren	be envious
ene	write, paint
eno	stay, remain
*enusi	signal with the finger
ele, else	raise, lift, arise
*elie	goad, spur, hurry
*eraes	praise one's self
*ere	bathe
*erenmite	finish, end, complete
ertse, erṭste	eat supper
*ese	dress
*esier	say
esoni, esosoni	hate
*exenmi	leave, depart
epe, epse	pass by
*etueis	disentangle, extricate, free
eṭe-n	sleep

I

*iweke, inke	gather plants
*iwini	do
iwo	dispute, quarrel
ima	show
ime	join
*imu	arise
*in	do
ina, inxa-n (una)	sicken
ina-n, insa-n	fall
inanme	rain

inu	observe, feel, conjecture, remember, recall
insu	know
*inkai	speak, talk, say
*inke-ni	seize, grasp
ilo	burn
iluwi, ilpi, ili	put on sash or cloth
ilsi-mi	give meat
*ilkun	lift skirts
irko	defecate
isento, is-inte	walk carefully, watchfully
*isi	await
isia	be hungry
isiwa, isiwi	give birth, be born
isiwe, isuwe	rest
isi-m, ispan, iisi-me, iipai	owe
isu	play at hand game
*isnu, isu	follow, imitate
istu, isut	dream
iskani, itškani	pay
*iske-ni, xiške-ni	hiccup
ixime	tremble
*ixironi	sprinkle
*ixiras	kick
*ixisa	walk in mud
*ixuk.a	shout, cry
ixwi, iuie	go, walk (many)
*ixtei	sting, be stung by (snake)
ipili, ipile	lie down, lay down
ipire, ip-e	turn around
*it-iu	get the better of one
itok	cleanse, purify
itma	lift, raise
iša, išu	wash
*išanai	arise
iše, išu	spur, incite, urge
ite	disparage
*iti-ni	bruise, mangle hand
išo, it-co	leave, depart
*itui	spread (acorns in the sun)
*iśeo, išu, iśku	doubt
*iteile	be ashamed
iteo-ni	come out

O

oio, (oit), ois	seize, take, bring
*oiwi	tie, clasp, bind
*ouso	order, instruct
*owe	return a favor, give the thing dreamt

*one	sit down, seat
*oneia	accompany
*on-ome	hunt deer
*onsie	ask, inquire
ole	can, be able, gain
olo	become blind
*ol-ue	signal
*olhs-e	kill many
olte-mi	give
orso-n	belch
orko	frighten
*osehe	speak, reply also
*oswe	scatter manure
*opiweis	discover, bring out
ot-o	mend, fix
*ot-o(po)	dirty, render filthy
ot-mo	pillar
*oto	regain
ots-io	wound
otspe-n	have a pain in the penis
ok, oke, ok-o	send
*ok-e	confess, be exposed
*oteenuix	discharge, dismiss
oteiko	de deaf, be quiet
*oteiko	desire, have desire, covet

U

*uwin	kill someone
*uwi-ni	flee
*una, unpina	cure
*un-e	quiet, cause to be silent
uni	desire, covet
ule	stop, cease
ule, (uel)	be sad, cry, be unable
ura	dig holes
*ura(pin)	make sport of, anger, feel, cause feeling
*uru-ni	fall
*urusi	have, carry
*urse, use	learn (language)
*usa-ni	have hang-nails on the fingers
use	smell, have an odor
usete, useti, usute	conceive (child)
*usiu-n	depart
*usiule	go out (fire)
*usui-mi	give seeds
*usulu	surpass, conquer
uxi-ni	be sad

uspu, usupu	fast
*ustu	whistle
*uska	cure by removing stick (sucking by shaman?)
*uske	mend, fix, repair
uxe, uxue, (uxwe)	guard; bring the object guarded
uxsi-ni	increase
*uhisoni	desire, crave, covet
up	roll
*upi	cover one's self (clothes)
upu	pay, buy, sell
*upxi, upxiti	sip, drink a little
*utisi	bargain, trade, buy, crave, desire, covet
*utix	crave, covet
utu	guard, place, sow (seed)
*utue	make a grimace
*utku	double, fold
uʔa-si	guard, protect (child)
*uke	bring water
*uk-ini-ni	wish to fall, walk around (dizzi- ness?)
uk-isi, uk-esi, uk-osi, uknesi	drink water
*utci	close
*uteu	open
uteu, uʔu, huteu	carry someone, raise, lift

W

waian	miss, err
wane	satiate, cloy
*wane-ni	wound one's self
*walektis	follow in file
wal-u-n, wolo-n	be envious
wara, warsa	cut
warak, warka	weep, cry
*warepi	visit, salute
waris	dislike
warse, warsi	follow, perform
warta, wanta	hide behind
*was-e	cut and dry meat
*wasi	beg a great deal
*wasi	hate, abandon
*washski, (wacki?)	pulverize (with the teeth)
waxa, waktei, wak, waxu	scratch, scrape
*waxaiam	be thirsty
*waxa-ni	do an act slowly
*wata	seize, bring, take atole
wate	come, go

wate	lack, fail, be wanting
*waterei, wetere	augment, make great
*wak-u	open the stomach and entrails
wakun	drown at childbirth
wakna, waka-ni	freeze
wel-o	cover the head
wesi, xuksi	kindle, light
wexe	shield, cover
*wetso	take out the belly
wi	commence, begin
wiya	light, enlighten
wilki	unfold
wilo	affirm with the eyes
*wilṭu	slope backwards above
wilkwo, welko	swell up (tule)
wire	blow upon, cure
*wirwe	illumine with a brand
wisa	display, show, teach
*wis-a	scratch (birds)
*wisen	dress a person
*wisen	spill, scatter
*wisol	uncover, disclose
*wispe	flash lightning
wixe	split feathers for arrows
wixi, wini, uxi-ni	fish, turn about, cure
wixia	dispute, question
wipa	invite
*wit	bow, stoop, jump
witi	fall, be thrown
*witu	break a fingernail
wik-e, wiwe	tremble, shake
*woso-ni	choke (with pinole)
*wopo	boil

Y

*yam	catch (moles)
*yan	boast
*yanu-ni	have pain in the stomach from running
*yasa	not take
*yat-ia	frighten
yata-ti	give anything
*yatan, lasun	be full (net)
yati	follow, accompany
*yats-e	be urged, impelled
*yeikmi, yere-ni	remain, continue, be suspended
*yenko	divide love (f)

yer	grow old, become torn
*yiusie	happen, succeed
*yim-, yumile	turn seat around
*yilu	commence, enter (season)
*yira	pick, prick
*yika	grind in metate
yono, yons	cut hair
*yoreti	chase, pursue
*yoron	pile up
*yoxon	loosen, slacken, ease
*yoso, yusu	have carnal intercourse <i>inter se</i>
*yoporon	make, manufacture
*yopok	hail
yoke	make sport of one
yoko	make ash, become ashes
*yuwi-ni	remain, stay
*yuya	bathe, swim
yume, yame	deceive, cheat
yura	kill by hand
*yuxi(s)	hope to
*yupki-ni	break the bottom off
*yutu-n	run, fall, flow (tears)

M

*ma	look
mai	laugh, smile
*mai-a, mai-x	view, behold
man	quench, put out
mala, male	soak, wet
*mali	cover the genitals
*malu-n	come down for the night
*maxe	look down, view beneath
*maxer	make sport of one with the eyes
maxi, mawi	close
maxu	open
*max-tei	be blind, unable to see
*map-is	put hand over or in mouth
matal-, matulani	place face downward
matmu, matnui	stink, have bad odor
*mak-a	be indistinct
makai, maki	cover, place in order to clean
maku	get married
*maku	go to eat
mene, (mane)	forget
*menomi, monomi	sink to the bottom of the water
*meno-ni, menso	drown in the water
*mensie	be ignorant of, not understand
*merke	move from the house

mexe, maxe	look, see
mete	hide (in the grass)
*miwe, miwik, mixu	strike?
*milan	spread on the ground (bread)
*milka	rob one without apprehension
mira	give presents, regale
*mire	fix the head like newborn children
*mistu	warm oneself
*mixira	pluck the skin on the hand, graze
*mipti	brood in nest
*miṭo-n	fall (bread)
*mike	test with the point of the finger
mit-ci, mitcui, mintcui	sharpen, temper, blunt (arrow)
*moil-el-e	run in a crowd
*moitce, moiṭi	gather, collect, come together
mome-n, (monie-n)	be late, delay
*momo	place something face downward
*monoi	enmesh, entangle
monse	advise
monsie	relate, recount
*moro	beg and accumulate (grain)
morke (morwe)	make sport of one by shouting
*moxo-n	submerge, sink
moho, molio	dance above (women)
*motielpese	make a reverence
*motuhe-n	appear, grow (hair)
moko	be born, leave
*muisi-n	love, desire, covet
*muiku	swallow without chewing
muma, mapu (mupa)	suck
*mumi	join, combine, meet (roads)
munse, munsu	soil, dirty
*mure	camp, prepare for night
mursu-n	ache in molar teeth
musi	suckle
musi	heat, warm
*musi	like, covet
*musiuru-ni	tickle in the nose
*musuk-te	rub, pulverize in the hands
muxe	suspect, misconstrue
*muxi	be hot (weather)
*muxuki, irikan	finish grinding pinole
mup-	close the mouth
mut-	tickle in the hands and feet
*mutie	eat pinole
*muku	hawk, cough
*muteipi	eat breakfast

N

*nayate	go gathering, get
nam, nanm	hear, listen to, understand
*nane, nene	count, pass in list, miss
nansa (nausa, namma)	experiment, test
nansi	know, recognize
*nasu-ni	fall, break (fire, brand)
*natka-u	blacken, cause to become black
*neike	be quiet, gentle
nesepa	ask permission
*niatin	cease doing, quit
nimi	strike, beat, kill
nipa	teach
noso-po	breathe
*nox	guard, hide
notio	lie, deny the truth
noto	slap face, box ear
*nue	be
*nuiri	desire to, wish to
*nuisin	love
*numa-ni	increase (pain)
nusa-ni	pant, breathe heavily
*nnski	snore

L

*laisaisi	sing rapidly
lala	fell, throw
lalei	fan, winnow
*lalu-n	lose, miss the road, wander
*laski(nis)	depart for another place
*latue	signal with the tongue
lak-e, lawe	rise, climb (sun)
laki	hang
laku-n, lauku-n, lnsku-n	gulp, eat without chewing
*lakwa-n	change from one to another
*lakpom	trip, fall, roll and lose something
*latcia	remain in one place
*lelŕe	turn the eyes too much
*lek-o	stink, have a bad odor
letsen, lessen, lelseu	like, enjoy, please
liwa, lixwa	hide in the grass
liwi, (lik(.))i, lieui, likni,	beat, cudgel, kill
lixin, lix, uwi)	
*l-imuok	steal, run, return and not catch
lilui	amuse, entertain
lisko-n, lisa-n	slip, slide, scrape, graze

lipa	hide in any place
*lik.wa	plaster, daub, smear, gloss
loe	loath, nauseate, repudiate
*lole	cause to speak, break a speech
*l-olio	be content, appeased, cease anger
*l-opopoi	pass between
*lopxe, lopkti	become mouldy (wheat)
lok(oi)s, loksio, lokosi	lie, make a mistake
*lokuk	put out (eye)
*luismu	fall from weight
*lulpus	play the flute
luxu-n, lux-u-n	stick in mud or clay, be stuck in
*luṭ-apa	wallow (in sin)
*luṭie	hang (like a swing)
*luka	soften the hair
*luteuma	get wet, soaked

R

*ranu-n	have pain in the neck
*raṭs-a	increase, crackle
*ratcami	be swelled up with plants
*remomae	go from one place to another
*rensik	interrupt, confuse
*reṭe, rekṭe	gather, collect
*reṭie	hang in a hidden place
*reke	change oneself, move
*riwi	transform, change
riri	put selvage on cloth
*ristest	serve, do
ripa	hit with the fist
*ripu, roṭciwewi	release, disentangle, cleanse, purify
ripu	prick
*ripsa	open with a knife
riṭa	cry, shout
*rite	make dried meat
ritca	speak, talk, converse, recount, play, entertain
roroi-s, (oro-s)	play, entertain, divert, amuse
rote	be (substantive)
roto	drown
*rotuk, roṭko	untangle, untie knot, knot, tie knot
*roko	put in the embers
roṭcio, roṭcue, roṭciwe	enmesh, entangle, free, disentangle
ruisu, ruisiu, ruisin, ruima, rūki, ruinxa	move, stir, tremble, shake
runa	dance
rusu	spit, expectorate
*ruxi	hide in the rear

ruta	speak about a person, or thing, refer to
ruta	cut, gather (wheat, feathers, etc.)
rutus	conceive (child)
*rutuk	signal "no" with the head
*rutu-n	surround by water, isolate

S

sawe	sing
saya	shout, cry
*sayal	lie face upward
*samai, samia	cut the forelock
*sanae	approach, draw near
*salu-ni	get a cinder in the eye
salpa	hang, place in a cleft or fissure
*salki	split, fall apart
*sare	pray in one's room
*saromi	administer extreme unction
sarpa	patch, disappear from view
*sasa	discover, find (land)
sate	make sport of one by naming him
satar(a), siațar(a)	open the mouth
sate	toast
sak-a	bring a little
sakeri-ni	stick in the uvula
*sateepume	bring coals, embers
seye	lengthen, expand
semo-n, semso-n, (semxo-n)	die
sele, sehele	look backward
selpe	intoxicate with tobacco or liquor, be crazy
sese	walk in file
seso-n	shiver
*sesort-po	swell with pride, become haughty
sesuk	decay
sepe (spepe)	cut hair
*sepie-n	satiate, cloy
*sialwini	split a flute
siaxu, siaksu	speak softly
*sietco-ni	hit (in stones)
siole	talk, converse among selves, be sad
siotio	tie hair in a tuft
*siokole-n	become hoarse, unable to speak
*siurire, similile	have a ringing in the ears
*siuspu-ni	be blinded by the sun
*siuto	hunt moles

siwe-n, sik-e-n	break wind
*siwi-ni, siri-ni	disappear (smoke, thirst)
siwi(ri-n)	suffocate with heat, burn
*sin-a-n	become bald
*sinmekpi	kiss
sinsi	act like a boy, otacer
*sinteu, suiteu	toast, cook in earth-oven
sinkuru, sinkuru	tickle in the body
*silku	lift skirt, pull shirt-tail
*siru	grind salt
*siru-ni, suxu-ni	rush, gush
*sitia-ni	have feet asleep
*siti-npe	crumble, chip, make small
siŋe	spread (fire)
siksa, sikila, (sika)	soil, dirty
*siteitee	cry with pain or weeping
*soinwe	enmesh, entangle
soro	flow, gush
*sorpo	disappear, dim, recede, vanish, fade
*soter-pu-ni	extend the feet
*sokoro	darken, become night
*sokto-n	get a drop of water in the eye
*suman, sumula	become soiled, dirty
*sumiri-ni	sleep from satiety
sumixi-ni, sunii-n, s-umiu	be content
sumu	decay
su-n, swi-ni	die
*sulu-ni	drop or cinder fall in the eye
*surire-n	die out, go out, extinguish (fire)
*sur-ni	heat, warm oneself
susu	be afraid, fearful
*susxe	act foolishly, play the fool
*supe-ni	dream of one
supi	tie, bind
*sut-u-ni	break, crack
*sutwi	pinch the mouth
*sutki, sut-e	stretch the ears
*suka	go to meet
sukumu	smoke (tobacco)
suksi, sukis	think, watch, observe, disapprove
swi-n, swi-u	consume, use up, finish, die
*swisia-ni	singe the hair
swixe, sinxe	skin, take off hide
*switcu	toast
*stecekele (cekele?)	set, place

X

xaisku, xasku, (xaise-n)	tickle, itch
* xauue	draw, fetch water
xawa	call
* xawei	put on a veil
* xawimi	enclose, lock in
* xawi-ni	still, quiet, be quiet
* xamu-ni	die out, go out (fire)
xa-mpin, xa-npu	eat again
* xan-ni	desire, crave, covet
* xalawe	strike sparks
xalas	lie, make a mistake
* xaleti	play
* xalsi-npe-ne	kindle, light (flint and steel)
xalki	stretch, extend
xari	begin, commence
* xarxare	befall ill, happen badly
* xarpa	disappear, fade away, become in- visible
* xartcute	lack a bit, a little missing
xas-a	desire to, want to
xase-n, xasese-n	become angry
xasiwa	scratch
xasi-mu-n	be ashamed, shame
xasli-n (xarli)	fear, be afraid
xastitinme, xatirinine	enter wind and cold
* xapu	cleanse, withdraw dirt
xata	sweep
* xatu	gather, assemble (fleas)
* xatki	cleanse, purify
* xatki-ni	go to the other side
xat̥a	hit
* xat̥uel-e	grumble, complain
* xake-ni	be flatulent, full of wind
* xakwa-iku	go for mussels
xatei-n, xatsi-n, xat̥i-n	die of hunger, thirst, laughing, etc.
* xeiwele, xeixeie	earthquake, tremble (earth)
xewe, xewi	cast shadow, reflect
xemko	set (sun)
* xelue	strip off bark
xelxelte	float
xeksio, (xeisio)	satisfy
* xiet̥e	hiccup
xii, wi, xih, xiixi, xiisi	go for fire, light fire
xiwa	arrive, bring
* xiwis	take off rope around neck
xima	seek, search
* ximsu	roll the head
xine, (xinkone)	go, walk

*xile	be wounded, have wounds
xiras, xiraṭ	scold, quarrel, lift the voice
xiri	make dried meat
*xirwi-ni	lessen, be ceasing (rain, wind)
xise	select, choose, elect
xisie, (xitsik)	make
*xiali-n	have pain in teeth
*xixwi	disdain, reject
xipu	carry
*xiteti	rub together
xiti, xitni, (xite)	cleanse oneself
*xitu-ni	catch the hand in the door
*xiṭa	make dried meat
*xiṭe	spur, prick, goad, stick
*xiṭe pet-o	stop (wind)
xiṭia, (xiṭa)	sew
*xiṭi-mi	become indebted
xiṭo, (xiṭa, xikṭo)	stretch, crawl
*xiṭorpi	throw, put, carry outside
*xiṭske-n	be contented
xiksi, xiwis, xikoi	tie, bind
*xitsik	make cotton cloth
xoin-we, xoixu-we, xoaxu	carry
*xowo	shout ho! ho!
*xomo	skin, take off hide
*xon(.)o(ti)	evolver <i>al arco</i>
*xonkote, xonxote	bundle, collect in a bundle
*xolome, xauni	ignore, not invite
xorko	gulp, swallow
xope	climb, mount
xopo	give water, give drink
*xot-oro, xot-ori	put hand in vagina
*xotpo	set (sun)
*xotcolon	make a hole (water)
*xuma, (xutna)	grind (mortar or metate)
xu-mi	give anything
*xu-ni	finish life, approach death
xute	kindle, light fire
*xuṭa	place inside
xuṭi	play game
*xuṭ-u-n	remove dust, powder
*xuṭski, xuṭoki	seize, withdraw, remove
*xuka	change (song)
*xutcu	carry on shoulder

H

*hairmurnik-ui	lift with one hand
hius-e, hinse, wise, ihuse-n	wish, desire, want
*hinti	throw, cast

*hihe(pim)	be defiant
*hume	join, impinge, strike
*humi-n	wash oneself
humiri, (umiri, tumiri)	baptize
humu-n, humsu-n,	fly
(umsu-n, unsu-n)	
*hun.i	mix, stir

P

paita	hunt (geese)
*paye	be pregnant
paya	run
*pala	slap, hit with the palm
*palsi-mi-n	toast, cook
*parsa	gleam, appear light
parki	weigh
*part.cipu	saw a pine
*pasipi	visit, salute
*paskei	secure fire with flint and steel
paxať, paxtea	know, recognize
*patiami-n	bet, wager
paťi	have, hold in hand
*paťue	release, loose
*paťaxin, paťski	strike sparks
paka	seek, call, crack mussels
*pak.ak	marry
*paka-ksi	beat
*pakeit	obtain fire, make fire
*pakere	start (tears)
*pakul	give hand, shake hands
*paksa	shine, lighten (fire)
patei	fall dew, sprinkle
pele, pelke	stick, join together, loosen, separate
pelťe, peťe	shut eyes
pesoi(po)	remember, think
*pepena	<i>espigar castellanamente</i>
*pet.e	guard fried fish
*peť.e	escape, flee, fly, go
*peťe-ni	keep mouth closed
*peťole	keep feet together
*piisokri	knock with fingers
pio	cleanse teeth
*pinawai	have pain (neck)
*pilpul.e, pulpul.e, tultul.e	beat, palpitate (heart, pulse)
pira	inhume, bury
*pirka-n	scratch (birds)
*pisiaks-i	grind, pulverize
pixi, pixe	split, open

*pixu-ni	burst pus
*pitilu, pistu	pinch, squeeze
pitipu, pitui-ni	cleanse intestines of excrement
*pitu-ni	flow, gush (tears)
*pitsi	frighten, frighten away
piṭe, piṭue, piṭui	tie, bind, unloose, untie
*piṭa-a	signal "no" with eyes
piteiwi	shake, cleanse the hair
*poisteco-ni, poiteco-ni	break wind without knowledge
*poiko-ni	frighten, scare
*polo	<i>sunt sodomici</i>
pol-o	paint, draw
*porpore	doze
posio, pasio	cut, singe hair with brand
*pos-o	check, suspend, equal
*posol-o aṭs	intend to dispute
*poso(poi)	be drunk, intoxicated
*poxoro-n	get the hives
poṭo	pull out down, fine hair, pluck
*poko-ni	swell, puff up
potsie	grumble, censure
*punsi-wi	catch (birds)
*punsi-ni	view with close attention
pulki-ni	break off bottom
*puriure	quake, tremble, earthquake
pusa	satiate, fill, cloy
*pusi-n	twist like a whirlwind
*puxi	recover, feed, give to eat
*put-i	cover and guard
put-in	involve, wrap, gather
*putu	return and go from place to place
puṭa	bring acorns, etc.
puṭi, puṭe, putci-ri	blow
puṭski	pull hair
*puṭske	make the sound "put, put"
*putsiule, potsinle	burn brightly, make no smoke (fire)

T

*taula-si	hold in arms
*taye	go quietly
*tamin, tan-	double, fold
tamu	warm oneself in the sun, take the sun
*tamra-ni	have earache
tamṭa	strike, beat
*tanu, tanyu, tan-	lift skirts
*tanta	embrace, lift in arms

*talu-ni	make blisters on hands
talʔu	extend the palms of the hands
*talku	spring, jump
*tasiute	watch, dance
*tasʔu	display palms of hands
*taxara	follow, go after
tax(e)	ask, question
tapa	turn the tables, pay back in own coin
*tapi	measure
tata	touch
*taʔaka	extend hand
*taka-ni	burn
*tak-e	measure
taku-ni	choke, strangle
teme-n, temo, temso	sleep by fire, warm oneself by fire
tenpe, tempe	dry up (water, river)
tere	cut hair
terpe	smart, pucker (pepper)
tie, tik	grumble, complain
tio	shoot arrow
*tinsi-n	flower, be in flower
*timire-ni	have headache
*timu-ni	trip, stumble
tinke-ni	jump, spring, leap
*tilo	don regalia
*tiru	miscarry
*tirsu-n	cut, break
*tisi	cure the itch
*tixi	slice meat, make dried meat
*tixiro-ni	slip, slide, fall
tipe, tiptipe	wander, walk about
*tipur	cut hair
*tipsa-ni	rattle, make a noise (bone)
*tipki	cut hand
*titi-n	cover with shoulder
*titu	fray, unweave
*tituk	lie on one side
*tiʔu	extend hand
*tit-ei	drown
*toutosi	harden, strengthen
*towo-n	remain rigid, frozen
tone, tonse	lose, find
*tolso	break knees
tor-ke	bring amole
*toxere-ni	be constipated
*topope	extend fingers and do top, top
totio-n	err, mistake, lie
*totoro-n	put in salt, salinify

*totue	put on shawl
tokso, (toksee)	rumble, make great noise, snore
*tuine	make wooden bridge
*tuisu, tuiu-rure	tremble (hand, belly)
*tume-n, tume-mels	make food
tun-e, (tunk)	finish, complete, end
tunute, (tanute)	conceive (child)
tule, (tulk)	knock at door, call
*tuluk	cover one (for the night)
tulku	give rap, fillip
tur-ai	be cold, chilly
*tusi-n	watch a dance
*tusu-n	await, expect
tupu-n	finish, complete, end
*tuta	cover one, put on hat
*tutiu-n	die?
*tutisi	string a bow
*tukitce	lift earth, (<i>enoorrar</i>)

T

*tayuwire	smile, chuckle, half laugh
ʔala	be hot (weather), put in sun
*ʔasak	clear, clarify (sky, weather)
*ʔata	possess much, own much
*ʔatu-n	cease pain
*ʔatuhule	speak between teeth
*ʔakarpite	sit down, sink
ʔeyo	blaze, heat, be afire
*ʔemelele	burn much
*ʔele	go in file, follow
ʔetesi	push, jostle, squeeze, hold
*ʔeke	tip-toe, walk on toes
*ʔien	kick
ʔiwi	put in bag, pocket
*ʔinai	tighten, constrain
*ʔiniwi	milk
*ʔil-usi	listen to attentively, hear
*ʔis-ektene, ʔeirxextene	cover with ashes
ʔisku	split, break, smash
*ʔixʔa	hide in sand, be hidden
ʔipe	thresh grain
*ʔipe(spi)	make thongs, straps for the capote
*ʔip-wi	cut, shorten, clip, abbreviate
*ʔiti	defend
ʔika	chew, masticate
*ʔollo	be seated
ʔon(o)me	seek a dead animal
*ʔonko-n	wither, become ury (seeds)

*toxoro	pass, go by (water)
*tox(pe)	dry up (water, river)
*tu	strike in the eye
ʔuma-s, (tumas, ʔumsa-n)	like, enjoy, please
ʔunku, (ʔunuk)	signal "no" with nostrils, con- stricting them
*ʔulu	make a hole
*ʔura	thunder
*ʔursu, ʔutsu	walk continually, never stop
ʔupu-ni	put finger in eye
ʔuka	beg, ask

K

kai, (kayi, kairi)	smart, be strong, bitter, bite
*kai-ʔi	tighten, constrain
*kawak	advise, notify
*kam	do, make
kama(i), kamexe	look, watch, see, behold
*kamu	lend (wife)
*kamutce, xamutce	lack a bit, be missing a piece
*kane	go to the quarrel, fight
*kanxi	dry up
kale	defend
*kal-u	bite
*kar	be fortunate, happen well
*kara	grind, rub in the palms
*karapu	give tobacco
*karka	kindle fire with small sticks
*karki	bargain, trade, barter
kase	bite
*kaxi	louse, expel lice
kapal(a)	embrace
*kapata	cross the arms, hands
*kapi	carry a large bundle under the arm
katia	give (clothes, food)
*katu	kill with teeth (lice)
*katu-ni	dry up (water)
*katca, katcue	be full of crickets, insects; expel them
*kat-ci	drown
*keie(k)	gather, collect, come together
kewe, keinwe	obstruct, intercept
*keleʔe, kelʔe	frown upon, watch with disap- probation
*kelok(mo), kelox(mo)	play by pinching
*kenem	put in proper place
ketio	argue, dispute, contradict
kil-e	shine, glare, glitter

*kiriwire, kiripire	write
*kix̣ti, kiḳti	have pain in throat
kipi	wink
*kipuhs	inflate, swell cheeks
kitpa	hide in hollow of a tree
*kiṭa	make fire with two sticks
*kitea, kiteua	close, lock with key; open, unlock
ko, ko., kwo., kwa, kua	say
kome	tire, become tired
*koliote	rumble, grumble (intestines)
*kwie, kule	whistle
kunile (kupile)	smoke (fire)
kusa	wash
*kusinwi	meet, encounter, see
*kuxa	hide among rocks
kuṭa(s), kuṭa(r), kutcura,	double, bind, tie
kuṭuru	
*kuṭ-a	tolerate, suffer, endure
krak(.)e, xrak(.)e	name, call

TC

teai(es)	praise
teaura, teausara, (teaura)	be seated, be (positional substantive)
*teauri	stink, smell bad
*teantcane	walk with shoulders raised
tcala, (tcalsa, teasali)	urinate
*teahel-e, teehele	take the higher part (song)
teapu	prick, stick, pinch
*tcaka, tcaksa	bring, arrive
*teak-i, teaxki	leave, depart
*teaku-niti	hate, desert
*tcakna-n	go ahead
*teimun, teaimun	treat ill, hinder, impede
*teimu-ni	bump the head
*teile	ring bell
teirpi	cry, shout
*teikri-n, teixri-n	reside, live
teite	dance
*teitmo	prick, punch the eyes
*teoliote	water moves in intestines
*teorowe	moisten, dampen
teorok	sadden, become sad
*teotle	be in file or line
teokse, teos-o	have pain (in mouth or ear)
teunu, teuni, ṭunu; (teun.),	wrap, extend, shorten, double,
teunuhwi	lift, fold, unfold
teulu	jump, spring, leap

*teulki	strangle, choke by squeezing neck
*teuspa	hide
*teukuri-ni	defecate, void excrement

ADJECTIVES

auli	salty, saline
aus̄u	sweet-toothed, gluttonous
auxe	high, tall
amaya	nude, naked
amank	famous
ansi	left-handed
antiwin	small
asia	distinct, different
apsie, apsik	good
āeitak	so great
atcien	thievish
atciwa	silly, filthy
eūti	sweet
el-emo	soft (ground)
elep̄is, elewia	straight, in file
emxe	very soft, gentle, easy
es.o	lewd, unchaste
ētaxe	leafless, bare
ina	ill, sick
in-se	lachrymose
irk-ti-o, irx-ti-o	flatulent
isiwa	newborn
ītas, ītsa	new
itce	small, little
owos	obedient, faithful
omxol-e	light, without weight
olsie	soft, easy
umulu	filthy, vile
unxu	snotty, filthy
unkum	thin, rare
ursi	big-headed
usula, (usuna)	deep-set (eyes)
ukumi	crippled
utelli	full-lipped, thick-lipped
wartci	difficult, narrow, small (road)
was-a, waska, waksa	streaked, soiled
wasiwe	playful
we-solo, we-yero, we-saro	large, great
we-tan	large, great
wetemes-ate	lean, gaunt, thin
wiman	lazy
witina	sticky
witeuktel, witcuxtel, wits.u	narrow, small

womo	bearded
wot-olo	deep-set (eyes)
yamuṭsi	unequal, different
yateomas, yateceme	torn, full of holes
yer-se	torn, old, broken
yolṭo, yoṭ-a	big-eared
yopono	ruptured
yusulu	fat, pot-bellied
mam-oxa, mam-oka,	foolish, stupid, silly
mam-anxa	
maxul-u	catarrhal, expectorant
maṭa	long-haired
matini, matil-i	large, great
meilo	large-mouthed
mex-el, max-ele	blear-eyed
meṭake	cloudy, clouded
minua	narrow, difficult (road)
misi-min, misi-mpin,	pretty, nice, pleasant, beautiful,
misi-a	good
mitile	curved, crooked, bent
mom-ti-e	slow, late, tardy
mureṭu, murteu, murṭu,	dark, black, like night
murt-eu	
muse	full-breasted
muṭimte	fat-buttocked
mutcira	pleated
natka	dark, black
niotsio	short, bob-tailed
noioro	big-footed
noti-ti-o	lying, untruthful
nop-ti-o	short in time, quick
nuxurikonin, nuxurixonin	flat-nosed
nutiri	big-nosed
laiṭa	long in time, tall, high, long
laskan	even, smooth, plain
laṭem	long, large-tongued
lakṭe, laxṭe	big-headed
lexeṭe	long, tenuous, stringy (phlegm)
l-e-ṭi-o, l-e-t-i-o, loito,	soft, easy, loose, not hard
l-ok-ti-o	
lisu, liisu	toothless, gums
lisnie	empty, clear
lit-imo	wet (hair)
lopote	firmly resolute
lopteo	ruptured
luplupsi	equal, straight, untwisted
lutsuma, luspi, l-uspi,	wet hair
l-uṭspi, luṭspi	
luteti	big-bellied, hairless

rauṭa	with big occiput, back of head
rinṭa	thin, lean
riski	flat-nosed
ritea	liberal, frank, generous, beneficent
riteua	silly, foolish, stupid
rikṭi	protruding (eyes)
romso	granular
roṭṭo	dirty-eyed
rotciteo, ritera, rotciko	blear-eyed
rutis	open, uncovered, excavated
ruṭai	congealed
saure, (sauri)	fat, greasy
saru	ruptured
saxirinme	sweet, odoriferous
satara	unclean
siat-cara	clear, rare, thin
sieperero	woolly, fleecy, hairy
simke	silent
sitl-u, sit-la	small, young
somsie	lewd, unchaste
sotolo, sokolo, sotiteo	big-lipped, large-mouthed
supiri	watered
sup-u	like a bladder, blister
xan-an	married
xalea	blind
xas, xase	brave, fierce
xaska	brunet, dark-skinned
xat-xatsi, xat-xasti	clean, well-swept
xemṭso	silent
xene	unequal
xel-wen	content, satisfied
xetoesi	leafless, sharp-pointed, keen
xetaxe	tired, worn-out
xitsu, xitsin	insipid, tasteless
xontee, xonxontee	empty, void (mussels), melancholy, crestfallen
xos-ti-o, xoiskore	light, with little weight
xo-ti-es	foolish, silly
xo-ti-o, xole	loose, hanging
xotpe, xot-iko	bare, without fruit
xotṣu	with deep-set eyes and bushy eyebrows
xokoi(o)	scabby, itchy
hituktei, hituxtei	mixed, intricate
howos	well-served
hoxehen	tardy, late
humulu	black
husiero	big-mouthed

huklemesate	delicate, fine, light
paine	bloody
paiaa	good at running
pal(.)ka	white
patka	pink, flesh-color, red, cream
pel-emo, pelsiek, pelek	soft
pelo (Sp.?)	bald, hairless
pelao	garrulous
pertewe	soft (bread)
pitko	pot-bellied
polao	painted, colored
polpol-si	pinto, spotted, full of points, streaked
porsie	trained (maker of unusual things)
porko	artistic
poxolo	prominent, bulging, protruding (eyes)
potsinle	smokeless (fire)
potxe	light, little weight
potso	quick, active
punçu, puçur	big-bellied, with much intestines
pultci-te	full-breasted
puçarte	newly-born
puçu, pulçu, polço	extremely protruding, bulging (eyes)
putcete	anxious, desirous
tamtcite	partly painted, colored
tasiri	hard, tough
taxaruçe	drunken, reeling
taxara	in file, in a line, straight
tap-an	good
tapça	serious
tepçe	shady
tirsi, tirtel	clear, limpid, pure
tirsia	large-buttocked
tixima, tilço	high-browed, with a large fore- head
tikili	large-eyed
titira, titiru	twisted, rounded
towo-ro	shivering with cold
torçe	ashy, ash-colored
to-ti-o	silly, foolish, lying, untruthful
tokolo	syphilitic
tokororoi	smooth, straight, even
tumuru	fat
tupsin	humpbacked, crooked, bent, curved
tailla	dwarfed
tanara	spotted
tasku, çasas	pink, flesh-colored, red

taxiale	clear, limpid, pure
tata	rich, well supplied with garments
tak-i	heavy with fruit (trees)
takuruṭe	clear, thin, full of holes
tesele	pink below
tomto	with loose clothes
tonko	big-footed
tok-i-ti-e	good at running, swift
tuiuru	wrinkled
tuṭuare	blunt-nosed
tuṭuna	small-eyed
kai-nawin	narrow, difficult, small
kayi	strong, pungent
kalteitsee	loud-voiced
kaal-u	small-headed
katiṭu	pot-bellied, fat
kaṭili	with prominent teeth
kakxa, kax-a	bitter
kel(sie)	raw
kelṭe	opaque-eyed, blind
kero	twisted (tree)
kexil-on	hoarse
ketciwesi	ready, prepared
kirsi, kiṭs-i	well-painted
kipi, kipiri	twisted, not straight, (feet, road)
kipuroro, kiwuroro	twisted, streaked
kiṭiṭae	creaking, grating
kits-u	one-eyed, squint-eyed
koro	thin, gaunt, lean
kuinu, kwinu	narrow (road)
kuti	small
kutis	clear
kutes-keṭs-i	very well tied, bound
teal-ti-a	urinous, fond of urinating
tealka	white
tearka	clear (sky)
tearki	quiet, restrained
teakulsi, teuki	downcast, head downward
teese, teixu	blue (eyed)
teekere	torn open, ripped
teirti	yellow <i>moro</i>
teisire	provoked, angry, in bad humor
teomelei	cowering, squat
teoxisi, teopsoxsi, teopsoksi	pock-marked
teoxorore, teokere	full of holes
teopolotesi	open, uncovered
tenierte	adorned, decorated
teupea	white, flesh-colored
tentsu, tentu	green

ADVERBS

Locative Adverbs

an-it, anit, an-i, an-epe, anta, an	where?
ansia	distant, far
axe	apart, another place
emxe	far down, very distant, indistinct
enenum	out of sight
esen	behind
in'ia, in'o	where?
iti	there, distant
i'ian, i'ayate	backward
orpei	in the middle
usiun, usionte	further on, further
winimui (wirimui)	below, under
naxana, nuxana, nuxu	there (farther)
ne, ni, nia, nitun, niatun, nime	here, hither
nu, nus	there (nearer)
lewe'as	low
ramai (resmai)	within
rini	above
rinsiksi	high
sanae, saeanae	hither
sinki	end, edge
xut-ni	before, preceding
tapere	above
ti	there, behind
tina (pina), tina-tum, tina-tun, titun	right here, close, hence
tipilikte, tipilile, tikilakte	round about
titu	on one side
kari	outside

Temporal Adverbs

auxaie	yet, still
ameren	a little time, little while
ar, aru	already (past time)
aruta, (arua)	tomorrow
artiskun, a'skun	suddenly
at, ara	shortly, soon (near future or recent past)
emen	still, yet, although
et, ete, yete, (yote, ikte, iste)	soon (indefinite future)
imi, ima.	always, all the time
in-at, inuat	when?

inya, inyaha, (yu'aha)	shortly, at once, (immediate future)
ipsiun	a little while, a short time
iti	after some time
itixsina	at last, today
itma	early in the morning
itsia, it-ia, itsia, itian, it-iomtum, it-aiate	afterward, soon, shortly
osioi, osio	again, another time
ume, uni	when, whenever
ule	yet, still, as yet
wisi	past time
wika	yesterday
yas	ever, at any time
yeteste	shortly, soon, in a short time
maran, markum, markutkus	future time
maha	at once
mes, met	future time
naha	today
nua	yet, still, although
xapuhu, xaputca	never
hokse, hoks	a long time ago, formerly
huyakse, wiyakse	this afternoon
pinawai	then, therefore, in that case
tabax, taba	today, day
kane, kaneme	before, earlier than
ketciwesi, (ketciwesi, kepiresi)	soon, at once, ready
kotcop, (koph)	when, whenever
kus	in the olden-times, once upon a time
kutis, kuti	presently, very soon, a little while
tcien	now, at once
tcira	always, continually

Descriptive and Miscellaneous Adverbs

aereis, eraeis	so, thus, truly
aman	so many
amane	in truth, truly
amanis-e	uninvited (!)
amun, amu, amn	in order that, concerning, because
asaha	truly, certainly
atpesi	good, truly
ats, ati	without, no
ewe, ene	and, but
ewoye, eye, etmoye	(past desiderative)
enohek	but (apposition)
es-e	just as if

esiensen, esiersem	(indirect discourse)
exe, xehe, he, lxi, hi, hexe,	yes
sexe	
epaeis, aoepaeis	perchance, perhaps
epsie, epsik	no! do not!
ekwe	no, not
imatkun, imaten.	if (contrary to fact condition)
isap, isu	truly, certainly
ipsen, utix	more
orteo, yenko	equally
usi	why, because
uksi	without more ado, heedlessly
walte	feet to head and head to feet
wele	(substantive?)
wisi	because
yas-e	also, as well
yekere	more, much more
yuta yuta	either or
ma	truly
moʃe	tell me! (interrogative)
muisin	(among them?)
nan, nami, nani	perhaps, maybe
nu at-ia	yes, of course
nuhilu, niʃahim	<i>cachibajo</i>
sata	like, as if
sire	strongly
xaʃxatci	stepping high
xene-kte	unequal
xenkoʃe-e	silently
xeheresi	low (voice)
xeʃskere	crawling
xiʃepu	strongly
hai, hahi, aiu, aia, hia, hiha	and, also (enclitic)
pini, pinyi, (pinya)	perhaps, perchance
taxe	(interrogative, final position)
tukne	would that! (past optative)
ʃaman	half
kaitis	with this, no more
kati, kata, katam	like, resembling, just as if
kua, kuai, kuawe	thus
tciei.e	high (voice)

INTERJECTIONS

ain-, aiun, auin-, anin	give me it! bring me it!
atena rautik	shout at middle of dance
eʃ	shout at gambling game
iske	wait a moment!
it-ie, iuie	come on! let's go!

iklamini	wait a moment!
oŋo	run! go!
uruksia(ne)	would that! (vehement desire)
yela, yelamini	wait a moment!
yuma	come on! let's go!
yupe, yu	run! go!
waras	upon my life!
nami, nani	let's see! we'll see!
lalei	get out!
linei	shout at gambling game
ranx	shout at beginning of dance
sotoi	shout at gambling game
sukai	shout at gambling game
xep	shout at gambling game
xine	look!
xouwo	shout at end of dance
xuŋi	shout at gambling game
tuii	shout of gambling game
ŋiu	shout of gambling game
kama	look!
kari	shout of gambling game
ke	listen! look!
kie	who knows!
teaorak	shout at gambling game
teit, teitak	shout at gambling game

POSTSCRIPT

At Pleasanton, California, live a small number of Indians, members of various central Californian groups, gathered here by reason of community of interest. They speak Spanish and Plains Miwok among themselves. A visit was paid them for a few hours in January, 1916, for the principal purpose of securing terms of relationship and notes on social organization. One of the two informants visited proved to be an elderly woman from San Lorenzo and from her a vocabulary of a hundred odd words was secured. A comparison of this with De la Cuesta's Mutsun shows actual identity in many cases. The practical identity of so many words proves first, the phonetic simplicity of the language, the care with which it was recorded and the value of the Spanish language as a medium for the recording of such aboriginal speech; second, the slight change which has taken place in this unliterary language in the past century, and third, the correctness of the recent transcription from Spanish to phonetic orthography. As regards the latter point, the correctness of the transcription of *gm* and *gn* to *km* and *kn* is demonstrated, while that of *gs* to *xs* in accordance with *tigsin*, *tixsin* is discounted by the record of *tugsus* as *tuksus*. No data were secured to elucidate the problem of *gt* and other *g* combinations.

The glossary secured follows here for purposes of comparison:

oriš	bear	hun	wolf
oṭo'imín	snake	pířewiš	rattlesnake
ma'i.yan	coyote	ɽcukuti'	dog
ha'mui	fish		
a'rwex'	oak	Ta'Por.	wood
yu'kiš	live oak	Tiwiš	flower
in	tears	si're	liver
išu	hand	xu:s	nose
urix, urí	hair	hēyek'	beard
we'per	mouth	hiñ	eye
mi.'nyix	heart	horko'sa	throat
mōtel, mo-tel	head	Ta-mas	eyebrows
mu:c	breasts	Tim-a'x'	forehead
las:e	tongue	Tumiš, tumš	leg, loins
*ran-ai'	back of neck	Tu-E	nail
ri.tuk	intestines	TuKšuiš	ear
si.T, sit	teeth	korō'	foot

inux ^w	road	*ru'wai'	house
hu't.i	bow and arrow	tepla'i'	basket
apa.	father	šinín	daughter, child
ana.	mother	ši'nmate'	small child
añci	paternal aunt	sultra'wu	white people
airakiš	woman	ha'uak'	wife
a'rciakic	virgin	hu'ntate'	old man
ete.	uncle or aunt	PaPa	paternal grand-
iniš	son		father
uetreš	chief, shaman	Taka.	elder brother
u'xi	mother-in-law	ta-riš	man
mele'	grandmother	Tale.	younger sister
mák.o	husband	Ta'nan	elder sister
mayin	wife of chief	Tanšikiš	younger brother
merš'i	father-in-law	Kaš'netc'	old woman
mš'riš	daughter-in-law	Kot-co	young man
muekma	people	teotco ^a	grandson
a.we	morning star	yuk.i	ashes
irek'	stone	si	water
omu'w,omu'x ^w	sea, arroyo	*ši'ric	fog
oš.e'	stars	hi'yis	fire
warš'p'	land	hišmen	sun
yo.ko	live coal	kormei	moon
uik.ani	yesterday	hiwe'	shaman's dance
ne.tuhi	today	hu.ši'š	tomorrow
*ri'simu	hill near town	ka'n-o	north
makišmo'.to		it is cloudy	
makiš a'.m'ne		it is raining	
yuwa'kne mak'šamne		it ceased raining	
herwe		it is hot	
kauwi'		it is cold	
lōškōwiš, loško'iš		it is white	
sirke ^w iš		it is black	
pultewis		it is red	
we'ter		it is large	
kutcu'iš		it is small	
šumikiš		give me!	
man.i rōti		where is it?	
rī.rcikmin		shouting of shaman at dance	
hu'.tukne		he died	
ka'.nak hu'tusin		I am going to die	
me.nem hu.tusi ^a		you will die	
wa.ka hu.tusin		he will die	
maki.n makhu'tusin		we will die	
makam kamhu'tusin		you (plu.) will die	
wa.kamakeahu'tusin		they will die	
hu'.tukne'x		I have died	

o'.miš ni'm i'	I am going to kill you
ka'.na ekni'mi oriš	I am going to kill the bear
me-nek' animi	you will kill me
ma'kam kisni'mi	you (plu.) will kill me
wa'.kamax makisni'mi'sim	they will kill me
ka'.na* tš'.he	I run
ka-na ektea'.u'ra	I sit
ne-ca tea-u'ra	now I sit
ka-na ka'yin	I am ill
pi'n ka'in	he is ill
ka.'iksiksir	my tooth aches
ka.'iksikmo.tel	my head aches
kiška.ikrumš	my back aches
kanak u'tkani	I am playing
ka-naksa'wi	I am singing
ka-na'xi'xi	I am dancing
ka-na kwarka	I am weeping
ka-na eki'wi	I am shouting
ka.'nakra'pona	I am going to stir
ka.'nakio'tcyen	I am laughing
a'tcišmente	I want to vomit
ekit' kanKana	I am hungry
anini.k'	I am thirsty
hi'nŋoka'masin	I am going to eat
akwet' kinšušte takaa'ma	I don't know what I will eat
ka-nak teatee	I am standing
ka-nak.emle	I am lying down
ka-nak eŋe	I am sleeping
ka-nak i'tma	I got up
ka-nak hō'pe	
ka-nak e'son	I get down
ka-nak yoken	I am tired

INDEX*

Titles of papers in this volume are printed in bold-faced type.

- Acatl (Aztec day-sign), typical form, 306; ornamental form of, 331 fig. 7, 368, 369 fig. 29.
- Accent, stress, mode of emphasis, in language of Germanic origin, and in Kato and other Athabascan dialects, 17.
- Achomawi, 281 footnote 6, 287, 288 footnote 16.
- Adjectives, Mutsun, 425, 461. *See also* Suffixes.
- Adverbs, Mutsun, locative, 466, temporal, 466, descriptive and miscellaneous, 467.
- Algonkin, 288.
- American Indians, Handbook of*, cited, 288.
- Animals, list of names of, in Mutsun language, 427.
- Antigüedades mexicanas*, 300.
- Athabascan, 288.
- Athapascan, spoken by Sarsi Indians, 190.
- Atl (Aztec day-sign), typical form, 306; ornamental form of, 331 fig. 7, 357 fig. 22, 358 fig. 23, 359, 360.
- AtlAtl, 337, 338 fig. 7, p. 368.
- Atsugewi, 281 footnote 6, 287, 288 footnote 16.
- Aztec calendar, 300; time-periods in, 300, 302; intercalations in, 300, 317, 319, 320, 328; Venus year, 301, 320; Mercury year, 301; moon not regarded, 301; star-periods, 301; cempoalli, 301, 302; nemontemi, 301; method of making observations, 303; system of dating, 303, and method of writing dates, 309; day-signs, 304, derivation of, 327, delineation of symbols in manuscripts, 328; thirteen as a factor in, 308, 313, 323, 324, 326; numerals, 308, 313, 322, 323, 324, 326; Tonalamatl, 310, 311, 315, 325; cycle (fifty-two year period), 314; not devised for chronological records, 315; as a means of soothsaying, 315; index of birthday used for personal name, 315; corrections of, 316, 317, 319; original sources, 318, 319; origin of, 321; twenty as a factor in, 322, 326; probable line of evolution, 327. *See also* Time-periods, Thirteen, Day-signs.
- Aztec codices. *See* Codices, Aztec.
- Aztec manuscripts, delineation of day-signs in, 297; bibliography of, 394. *See also* Codices, Aztec.
- Aztec mythology, cataclysms in, 379.
- Aztec year, initial day, 312; year-sign, 314; cycle of fifty-two years, 314.
- Baegert, cited, 290.
- Bandelier's papers on ancient Mexican manuscripts, value of, 320.
- Barrett, S. A., cited, 281 footnote 6.
- Bartlett, 280.
- Bear, totem, 295.
- Beaver language, 190.
- Belmar, Francisco, cited, 280, 285; orthography altered, 281.
- Blackfoot Indians, Sarsi associated with, 190; Sarsi stories about, 263, 269.
- Boas, F., cited, 288.
- Boas Anniversary Volume, 303.
- Bologna Codex, 309.
- Book of Indexes, 310; applied to time-periods, 311.
- "Book of Tributes," 299.
- Brinton, D. G., 280, 289; cited, 279, 288.
- British Columbia, relationships of Indian languages of, with Sarsi and Beaver, 190.
- Buffalo hunting, Sarsi texts, 273, 275.
- "Calendar round," fifty-two years period in Maya Calendar, 314.
- Calendar symbols in the manuscripts, delineation of, 328.
- Calendar system of the Aztecs. *See* Aztec calendar.
- California, Gulf of, 280.
- California, Lower, 279, 290.
- California, South Central, social organization of Indians, 291; to be compared to that of Luisefio,

* Univ. Calif. Publ. Am. Arch. Ethn., vol. II.

Index

- Mohave, and Pima, 295; inter-relations within its own area, 296.
- California, University of, scientific publications on native Indian languages, 401.
- Calli (Aztec day-sign), typical form, 306; ornamental forms, 341, 342.
- Campo, California, Diegueño dialect spoken at, 177 footnote.
- Cane (Aztec day-sign), typical form, 306; ornamental form, 331, fig. 7.
- Cempoalli, in Aztec calendar, a "period of twenty," 301.
- Chamberlain, A. F., cited, 288.
- Chavero, 300.
- Chemakuan, 288.
- Chimariko, 281, 285, 286, 287.
- Chontal. *See* Tequistlatecan.
- Chumash, 287.
- Chumash and Costanoan Languages*, cited, 421 note 8.
- Cipactli (Aztec day-sign), typical form, 306; ornamental form, 329, 330 fig. 5, 333 fig. 8; sources of drawings, 334.
- Clavigero, original source for study of Aztec calendar, 319.
- Coatl (Aztec day-sign), typical form, 306; ornamental forms, 329, 329 fig. 4, 345 fig. 13.
- Cochimi, proximity of the Seri to, 280.
- Cocopa, 186 footnote 34; fricative x, 180 footnote 10; open vowel compared with Mohave and Diegueño, 184 footnote 20; proximity of the Seri to, 280.
- Codex, Bologna, 309; Borbonicus, 300; Tro-Cortesian, 323; Vatican A, 320; Zapotec, 299.
- Codices, Aztec, publication of by Lord Kingsborough, 299; numerals in, 308.
- Costanoan, Mutsun dialect of, 399, 400; structure, 402; phonetic system, 402; vowels, 402; consonants, 402; sonant g missing, 403.
- Cozcaquhtli (Aztec day-sign), typical form, 306; ornamental form, 364 fig. 26, 375 fig. 33, 376.
- Cree, 261, 269.
- Crowchief, Charlie, interpreter, 190.
- Cuesta, Father Felipe Arroyo de la, the Mutsun dialect of Costanoan based on vocabulary of, 399; collection of Mutsun words, phrases, and sentences, 400, 470; Mutsun grammar, 401, 420, 421.
- Cuetzpalin (Aztec day-sign), typical form, 306; ornamental forms, 343, 344 fig. 12.
- Curo, Rosendo, Diegueño Indian, 177.
- Cycle, fifty-two year period in Aztec calendar, 314.
- Dates, in Aztec calendar, system of, 303; method of writing, 309; date of birthday used for personal name, 315.
- Day-names, Aztec, 305.
- Day-signs in Aztec manuscripts, delineation of, 297; typical forms, 306; year named after initial day-sign, 312; dominical, 312; local varieties, 321; sequence of, 330; convergence, 331, 354, 355, 362; ornamental forms, figures of: Snake, 306, 329, 345, 346; Water-Monster, 306, 330, 333; Rain, 306, 331, 385, 386 fig. 36; Flower, 306; Cane, 306, 368 fig. 28; Grass, 306, 364; Wind, 306, 338, 389 fig. 37, 390; House, 306, 341; Lizard, 306, 344; Death, 306, 347, 350; Deer, 306, 351, 352, 354, 355; Rabbit, 306, 353, 354, 355, 356; Water, 306, 331, 337 fig. 22, 358 fig. 23, 359, 360; Dog, 306, 361 fig. 24, 362; Monkey, 306, 363, 364, 365 fig. 27, King-Vulture, 364 fig. 26, 375 fig. 33; Ocelot, ocelotl, 306, 370, 372 fig. 31; Eagle, 306, 373 fig. 32, 374; Motion, 306, 377, 378 fig. 34; Flint, 306, 381 fig. 35, 382; borrowing of characteristics between, 391 fig. 38, 392.
- Day-symbols in Aztec calendar, 305; derivation of, 327; delineation of, 328.
- Death (Aztec day-sign), typical form, 306; ornamental forms, 347, 350 fig. 15. *See* Skull.
- Deer (Aztec day-sign), typical form, 306; ornamental forms, 351, 352 fig. 16, 354 figs. 17 and 18, 355 figs. 19 and 20.
- Deer totem, 295.
- Delineation, The, of the Day-Signs in the Aztec Manuscripts, 297.
- Diegueño Language. Phonetic Elements of the, 177.

Index

- Diegueño language, phonetic elements of, compared with Mohave, 283, 284; unaccented vowels, 284.
- Dixon, R. B., cited 279, 281 footnote 6, 285, 286, 287, 288 footnote 16.
- Dog (Aztec day-sign), typical form, 306; ornamental forms, 361 fig. 24, 362.
- Dominical day-signs, 312.
- Eagle (Aztec day-sign), typical form, 306; ornamental forms, 373 fig. 32, 374.
- Eagle-ribs, Sarsi informant, 191; story about, 223; war deeds of, 269.
- Eagles, in Sarsi texts, 277.
- Edmonton, Canada, 257.
- Ehecatl (Aztec day-sign), typical form, 306; ornamental forms, 337, 338 fig. 9.
- Elements of the Kato Language, 1.
- Enclitics in the Mutsun language, 426.
- English, parts of speech, 405.
- Esselen, 281, 286, 287.
- Fabrega, José, original source for study of Aztec calendar, 319.
- Flint (Aztec day-sign), typical form, 306; ornamental form, 381 fig. 25, 382.
- Flower (Aztec day-sign), typical form, 306; ornamental form, 331 fig. 7, 389 fig. 37, 390.
- Förstemann cited, 301; on element of thirteen in Aztec calendar, 323, 324, 325.
- Fortes, member of dental series of stops in Kato language, 10.
- Gender, in Mutsun language, 408.
- Genitive case of Mutsun nouns, 410.
- Goddard, P. E., 1, 189.
- Goodman, cited on the tonalamatl in the Aztec calendar, 326.
- Grass (Aztec day-sign), typical form, 306; ornamental forms, 331 fig. 7, 364, 366 fig. 28.
- Haida, 288.
- Harrington, J. P., 177; cited, 287.
- Henshaw, H. W., cited, 288.
- Hernandez, F., work on *Guerra del Yaqui*, 280.
- Hewitt, J. N. B., cited, 280.
- House (Aztec day-sign), typical form, 306; ornamental forms, 341.
- Humboldt, original source for study of Aztec calendar, 319.
- Indo-European, 286; model categories, 418.
- Inflection in Mutsun language, 408.
- "Intercalations" in Aztec calendar system, 300, 317, 319, 320, 328.
- Interjections, Mutsun, 468.
- International Phonetic Association, 184 footnote 20.
- Iroquois, 289.
- Itzcuintli (Aztec day-sign), typical form, 306; ornamental forms, 361 fig. 24, 362.
- Ixtlilxochitl, Fernando de Alva, original source for study of Aztec calendar, 319.
- Karok, 281, 286.
- Kato language, elements of, 1; stress accent in, 17.
- Phonology:
- Individual sounds: vowels, 4, semi-vowels, 5; continuants: liquids, 5, nasals, 6, figures of, opp. 92, 94; spirants, 7, figures of, opp. 88, 90, 96; stops: labial, 9, figures of, opp. 98; dentals (fortes), 9, figures of, opp. 100; palatals, 11, figures of, opp. 102, 104; velar, 12; glottal, 12, 13; affricatives, 13, figures of, opp. 106; table of sounds, 13; comparison of Kato and Hupa sounds, 14; assimilation of sounds, 17.
 - Modification of syllables, 17.
- Morphology:
- Nouns: simple, monosyllabic, 19; figures of, opp. 110; with possessive prefixes, 21, figures of, opp. 112, 114; parts of the body, 21; clothing, 23; relatives, 23.
 - With suffixes, 23, figures of, opp. 116, 118; plural and class suffixes, 24; locative suffixes, 24; suffix with instrumental meaning, 26; suffixes of temporal-modal force, 26; suffixes of size, shape, and color, 26.
 - Nouns compounded with nouns: first noun qualifies the second, 27; with possessive prefix for second component, 27; with second component modifying the first, 27.

Index

- Nouns compounded with adjectives, 28, with verbs, 29; adjectives and verbs used as nouns, 29; figures of, opp. 124; verbs with instrumental prefix used as nouns, 31, figures of, opp. 132, 134; polysyllabic nouns unanalyzed, 31; figures of, opp. 120, 122, 126.
- Pronouns, personal, 32; personal demonstratives, 33; demonstratives, 34; interrogative and indefinite pronouns, 34; figures of, opp. 130.
- Adjectives, 35; pronominal, 35.
- Numerals, 36; cardinals, 36; multiplicatives, 36; distributives, 36.
- Directional words, 37.
- Adverbs, place, 38; time, 38; manner and degree, 39; figures of, opp. 128, 130.
- Postpositions, 39; particles and interjections, 41.
- Verbs, 42.
- Prefixes, first position, 42; adverbial, 43; deitic, 49, 51; objective, 51; first modal, 52; second modal, 53; subjective, 55; third modals, 57.
- Stems, 59.
- Suffixes, 80; source of information, 80; modal, 81; temporal, 83.
- Tenses and modes, 84; table of analyzed verbs, 85.
- Tracings of speech, interpretation of, 86; lateral sonant and spirant, 88, 90; nasals, 92, 94; spirants, 96; labial stop and nasal, 98; dental stops, 100; sonant palatal stops, 102; surd palatal stops, 104; affricatives, 106; miscellaneous, 108; monosyllabic nouns, 110; nouns with possessive prefixes, 112, 114; nouns with suffixes, 116, 118; polysyllabic nouns, 120, 122, 126; nouns of verbal origin, 124; adverbs, particles, etc., 128; pronouns, adverbs, 130; prefixes of verbs, 132, 134; verbal prefixes, subjectives and objectives, 136; verbal suffixes, 138; suffixes of verbs, 140; verbal stems, 142, 144, 146, 148, 150, 152, 154, 156, 158, 160, 162, 164, 166, 168, 170, 172, 174, 176.
- King-vulture (Aztec day-sign), typical form, 306; ornamental form, 364 fig. 26, 375 fig. 33, 376.
- Kingsborough, Lord, publication of Aztec "codices," 299.
- Kroeber, A. L., 177, 279, 401; cited, 403 note 6, 421 note 8.
- Kuyahomar, 181 footnote 16.
- Kwayu, 181 footnote 16.
- La Posta, 177.
- Leon y Gama, Antonio, original source for study of Aztec calendar, 319.
- Library of American Linguistics*, 400.
- Lizard (Aztec day-sign), typical form, 306; ornamental forms, 343, 344 fig. 12.
- Loustanou, 280.
- McGee, W J, monograph on the Seri, 280.
- Magic, famine relieved by, 251; practice of, 253.
- Maguey, 299.
- Malinalli (Aztec day-sign), typical form, 306; ornamental form, 331 fig. 7, 364, 366 fig. 28.
- Manual de los ministros de las Indias, 301.
- Manuscripts, Aztec, 299. *See also*, Codices, Aztec.
- Manzanita, 177.
- Maricopa, fricative x, 180 footnote 10.
- Mason, J. A., 399.
- Maya calendar, 314.
- Mazatl (Aztec day-sign), typical form, 306; ornamental forms, 351, 352 fig. 16, 354, figs. 17 and 18, 355 figs. 19 and 20.
- Mesa Grande, San Diego County, 177, 179 note 9.
- Mexican Antiquities*, 299, 332.
- Mexico, 288.
- Miquiztli (Aztec day-sign), typical form, 306; ornamental forms, 347, 350 fig. 15. *See also* Skull.
- Modal categories, Mutsun, 418.
- Mohave, comparison of Diegueño with, 177, 178, 180, 181, 182, 183, 184, 185; representative of Yuman group, 281; w of, 282; k, and θ of, 283, 284; other dialectic comparisons, 285, 286, 287.

Index

- Monkey** (Aztec day-sign), typical form, 306; ornamental forms, 363, 364, 365 fig. 27.
Monterey, California, 400.
Monterey County, California, 295.
Monumentos del arte mexicano antiguo, 299.
Morning-star, mentioned in Aztec manuscript, 303.
Morphology of the Kato language.
See Kato language, elements of.
Reduplication in Mutsun, 408.
Motion (Aztec day-sign), typical form, 306; ornamental form, 377, 378 fig. 34.
"Motolinia" (Toribio de Benevente), original source for study of Aztec calendar, 319.
Mutsun Dialect, The, of Costanoan Based on the Vocabulary of De La Cuesta, 399.
Mutsun language, 400, 401; structure, 402; phonetic system, 402; vowels, 402; consonants, 402; phonetic laws, 405; de la Cuesta's collection of words, phrases, and sentences, 400, 470; his grammar, 401, 420, 421.
Parts of Speech, 403.
Nouns, 403, 405; suffixes, 406, 410; inflections, 408; gender, 408; grammatical person, 410; genitive case, 410; classified lists, 427-439.
Pronouns, 411, 439; demonstrative, adjectival, and interrogative, 440; lists of, 439, 440.
Verbs, 411, 441; suffixes, 412; reduplication of verbal stems, 412; modal categories, 418; relations implying motion, 420; negative particle, 423; lists of, 441-461.
Adjectives, 425, 461; suffixes, 425, 426; lists of, 461-465.
Particles, 426; enclitics, 426.
Adverbs, locative, temporal, 466; descriptive and miscellaneous, 467.
Interjections, 468-469.
See also Suffixes, Numerals.
Nahuatlán, 288.
Nejo, Isidro, 179.
Nemontemi, in Aztec calendar, 301, 302.
Nose-plug, used in delineation of Aztec day-signs, 335, 373.
Numerals in the Athapascan dialects, 36; in the Aztec calendar, 308, 313, 322, 323; list of, in the Mutsun language, 439.
Nuttall, Mrs. Z., cited, 303; on initial day-signs in Aztec calendar, 312; original source for study of Aztec calendar, 319.
Oaxaca, Tequistlatecan idiom of, 279; Belmar's work on, 280.
Ocelot, Ocelotl (Aztec day-sign), typical form, 306; ornamental forms, 370, 372 fig. 31.
Olin (Aztec day-sign), typical form, 306; ornamental form, 377, 378 fig. 34.
Onorato, Digueño Indians, 177.
Oregon, 288.
Orozco y Berra, Manuel, original source for study of Aztec calendar, 319.
Ozomatli (Aztec day-sign), typical form, 306; ornamental forms, 363, 364, 365 fig. 27.
Pala, 177.
Palaihnihan, 288 footnote 16.
Particles in the Mutsun language, 426.
Peace River, Canada, 190.
Peñafiel, A., 280, 299.
Penutian, contrasted with Hokan, 286; new family, 288, 401.
Phonetic Elements of the Diegueño language, 177.
Phonology of the Kato language.
See Kato language, elements of.
Piegán, 259.
Piman, 288.
Pinart, A., 280.
Pleasanton, California, Indians at, 470.
Pomo, 281, 286, 287.
Powell, J. W., cited, 288.
Prefixes, in the Kato language.
See Kato language, elements of.
Quauhtli (Aztec day-sign), typical form, 306; ornamental forms, 373 fig. 32, 374.
Quetzal-coatl, Aztec wind-god, 307; represented by day-sign, Wind, 337; realistic drawing of, 338 fig. 9, q; figure of face, 340 fig. 10; ear-ornament, 377.
Quiahuitl (Aztec day-sign), typical form, 306; ornamental forms of, 331, 385, 386 fig. 26.
Rabbit (Aztec day-sign), typical form, 306; ornamental forms, 353, 354 figs. 17 and 18, 355 figs. 19 and 20, 356 fig. 21.
Rain (Aztec day-sign), typical form, 306; ornamental forms, 331, 385, 386 fig. 36.
Ray, Bill, vocal tracings of Kato language, 3.

Index

- Rousselot apparatus, 190.
 Sahagun, Bernardino de, 300, 318; cited, 303.
 Salidon, Diegueño, Indian, 177.
 Salinan, 287; totems, 295.
 San Diego County, California, 177.
 Salishan, 288.
 San Felipe, California, 177.
 San Juan Bautista, Mission, California, 400.
 San Lorenzo, California, 470.
 Sapir, E., cited, 281 footnote 6, 288.
Sarsi Texts, 189; key to sounds, 191; Sun Dance, 193; prayers, 197, 227, 233; hair parters, 197; counting of coups, 203, 269; clog feast, 209; societies, 215; qualifications and duties of chiefs, 215; shamans, 217; sports, 219; painting of tipis, 219; buffalo pounds, 221; trapping beaver, 219; primitive dishes, 221; stone arrowheads, 223; What Eagle-Ribs Saw at Edmonton, 223; planting tobacco, 227; Buffalo Bill Gives a Shield, 231; painted tipi, 243; buffalo stone, 243; famine relieved by magic, 251, by Broken Knife, 253; Two Hawks Test Their Speed, 263; water-being, 267; ghost, 269; grasshopper, 273; buffalo-hunting, 273, 275, eagles, 277.
 Seler, Edward, cited, 301, 303; on initial day-signs in Aztec calendar, 312 note 22; original source for study of Aztec calendar, 319; on element of thirteen in Aztec calendar, 323, 324, 325; investigations of Mexican chronology, 327; criticism of conclusions, 335, 336.
Serian, Tequistlatecan and Hokan, 279.
 Serna, Jacinto de la, cited, 301; original source for study of Aztec calendar, 319.
 Shasta, language, 281, and footnote 6, 286, 287, 288 footnote 16.
 Shea, J. G., Costanoan manuscripts, published by, 400, 405.
 Shoshonean, 179 note 9, 288, 291, 292.
 Siguenza, Carlos, original source for study of Aztec calendar, 319.
 Sioux, story of Sarsi boy's escape from, 259.
 Skull, representation of in Aztec day-signs, 348, 349, 350; realistic drawing of, 350.
 Snake (Aztec day-sign), typical form, 306; ornamental forms, 329, 329 fig. 4, 345 fig. 13, 346.
 Sonora, relation of Seri language of, to Tequistlatecan and Yuman, 279.
 Spanish spoken by some Indians in California, 470.
 Spanish j compared to Yuman developments, 180 footnote 10.
 Spanish orthography used for expressing Costanoan sounds, 401, 402, 403.
 Star-periods in Aztec calendar system, 301.
 Stops in the Kato language. *See* Kato language, elements of.
 Suffixes in the Kato language. *See* Kato language, elements of.
 Suffixes of Mutsun adjectives: adjectival, 425, 426; infix occasionally found before, 426.
 Suffixes, of Mutsun nouns:
 Etymological: resultative, 406; infinitive, 406; causative, 406; abstractive, 406; instrumental, 406, 407; agentive, 407; nominal, 407.
 Morphological: plural, 408; compositional, 409; partitive, 409; terminative, 409; objective, 409; instrumental, 409; locative, 410; comitative, 410; regressive, 410.
 Suffixes, of Mutsun verbs:
 Etymological: possessive, 412; imitative, 421; purposive, 412; dative, 413; substantive, 413; oppositional, 413; excessive, 413; corporeal, 413; mandatory, 414.
 Morphological: indefinite, 415; past tense, 416; intransitive, 416; transitive, 417; reflexive, 417; reciprocal, 417; passive voice, 418; future passive, 418; perfect passive, 418; imperative, 419; missionary imperative, 419; subjunctive, 419; hypothetical, 419; conditional, 419; iterative, 420; mandative, 420; purposive motion, 421; prohibitive, 421; "excellentive," 421; beneficial, 422; perfect transitive, 422; adjectival, 422, 423; perfect intransitive, 423.

Index

- Swanton, J. R., cited, 288.
 Taylor, A. S., 400.
 Teagucagga, a wise Sarsi, 427.
 Teepatl (Aztec day-sign), typical form, 306; ornamental form, 381 fig. 35, 382.
 Tehuantepec, California, 279.
 Tenochio, 280.
 Tezozomoc, cited, 303.
 Thirteen, as a factor in Aztec calendar, 308, 313, 323; importance of, 324; Förstemann's theory of origin, 324, 325; Seler's hypothesis of origin, 324, 325; factor in the tonalamatl, 326.
 Thomas, Cyrus, 299, on vigesimal numeral system in Aztec calendar, 322; on element thirteen in Aztec calendar, 323.
 Thomas, C., and Swanton, J. R., map of linguistic stocks of Mexico, 280.
 Tiger (Aztec day-sign), 306.
 Time-periods in Aztec calendar system, 300; method of determining, 302.
 Tlaloc, rain-god, 385.
 Tlingit, 288.
 Tochtili (Aztec day-sign), typical form, 306; ornamental forms, 353, 354 figs. 17 and 18, 355 figs. 19 and 20, 356 fig. 21.
 Tonalamatl, 310, 311, 315, 325; factors thirteen and twenty in, 326.
 Torquemada, Juan de, original source for study of Aztec calendar, 319.
 Totems, among Salinan Indians, possible significance of, 295.
 Tro-Cortesian Codex, 323.
 Troncoso, original source for study of Aztec calendar, 319.
 Twenty, as factor in Aztec calendar, 322, in the tonalamatl, 326.
 Uto-Azetaken, 286.
 Vatican Code A, 320.
 Venus year in Aztec calendar, 325.
 Vigesimal numeral system in Aztec calendar, 322, 323.
 Waikuri language, 290.
 Wakashan, 288.
 Walapai, 184.
 Water (Aztec day-sign), typical form, 306; ornamental form, 331 fig. 7, 357 fig. 22, 358 fig. 23, 359, 360.
 Water being, in Sarsi texts, 267.
 Water-monster (Aztec day-sign), typical form, 306; ornamental form, 329, 330 fig. 5, 333 fig. 8; sources of drawings, 334; resemblance to snake, 335.
 Waterman, T. T., 297; cited, 179, 180, 181, 184.
 Wind (Aztec day-sign), typical form, 306; ornamental forms, 337, 338 fig. 9; used to represent Wind-god, Quetzal-coatl, 337.
 Wind-god, Quetzal-coatl, 307; represented by day-sign Wind, 337; realistic drawing of, 338 fig. 9, q; figure of face, 340 fig. 10.
 Wiyot, 288.
 Xochitl (Aztec day-sign), typical form, 306; ornamental form, 331 fig. 7, 389 fig. 37, 390.
 Yana, 281, 286, 287.
 Yaqui, Hernandez's work on, 280.
 Year sign, in Aztec calendar, 314. *See* Aztec year.
 Yokuts, kinship system, 292.
 Yuma, fricative x of, 180 footnote 10; open vowel compared with Mohave and Diegueño, 184 note 20.
 Yuman, 283, 284, 290; Diegueño and Mohave as members of, 177; genetic connection with Seri and Tequistlatecan, 279, 280, 287; Mohave representative of, 281.
 Yurok, 288.
 "Zapotec Codex," 299.

L. Soc. 120, 028

RECEIVED

DEC 1 1912

UNIVERSITY OF CALIFORNIA PUBLICATIONS

IN

LIBRARY OF THE

AMERICAN ARCHAEOLOGY AND ETHNOLOGY MUSEUM

Vol. 11, No. 1, pp. 1-176, pls. 1-45

October 31, 1912

ELEMENTS OF THE KATO LANGUAGE

BY

PLINY EARLE GODDARD

UNIVERSITY OF CALIFORNIA PRESS
BERKELEY

UNIVERSITY OF CALIFORNIA PUBLICATIONS
DEPARTMENT OF ANTHROPOLOGY

The following publications dealing with archaeological and ethnological subjects issued under the direction of the Department of Anthropology are sent in exchange for the publications of anthropological departments and museums, and for journals devoted to general anthropology or to archaeology and ethnology. They are for sale at the prices stated, which include postage or express charges. Exchanges should be directed to The Exchange Department, University Library, Berkeley, California, U. S. A. All orders and remittances should be addressed to the University Press.

European agent for the series in American Archaeology and Ethnology, Classical Philology, Education, Modern Philology, Philosophy, and Semitic Philology, Otto Harrassowitz, Leipzig. For the series in Botany, Geology, Pathology, Physiology, Zoology and also American Archaeology and Ethnology, R. Friedlaender & Sohn, Berlin.

AMERICAN ARCHAEOLOGY AND ETHNOLOGY.—A. L. Kroeber, Editor. Price per volume \$3.50 (Vol. I, \$4.25).

Cited as Univ. Calif. Publ. Am. Arch. Ethn.		Price
Vol. 1.	1. Life and Culture of the Hupa, by Pliny Earle Goddard. Pp. 1-88; plates 1-30. September, 1903	\$1.25
	2. Hupa Texts, by Pliny Earle Goddard. Pp. 89-368. March, 1904	3.00
	Index, pp. 369-378.	
Vol. 2.	1. The Exploration of the Potter Creek Cave, by William J. Sinclair. Pp. 1-27; plates 1-14. April, 1904 .....	.40
	2. The Languages of the Coast of California South of San Francisco, by A. L. Kroeber. Pp. 29-80, with a map. June, 1904 .....	.60
	3. Types of Indian Culture in California, by A. L. Kroeber. Pp. 81-103. June, 1904 .....	.25
	4. Basket Designs of the Indians of Northwestern California, by A. L. Kroeber. Pp. 105-164; plates 15-21. January, 1905 .....	.75
	5. The Yokuts Language of South Central California, by A. L. Kroeber. Pp. 165-377. January, 1907	2.25
	Index, pp. 379-392.	
Vol. 3.	The Morphology of the Hupa Language, by Pliny Earle Goddard. 344 pp. June, 1905	3.50
Vol. 4.	1. The Earliest Historical Relations between Mexico and Japan, from original documents preserved in Spain and Japan, by Zelia Nuttall. Pp. 1-47. April, 1906 .....	.50
	2. Contribution to the Physical Anthropology of California, based on collections in the Department of Anthropology of the University of California, and in the U. S. National Museum, by Ales Hrdlicka. Pp. 49-64, with 5 tables; plates 1-10, and map. June, 1906 .....	.75
	3. The Shoshonean Dialects of California, by A. L. Kroeber. Pp. 65-166. February, 1907	1.50
	4. Indian Myths from South Central California, by A. L. Kroeber. Pp. 167-250. May, 1907 .....	.75
	5. The Washo Language of East Central California and Nevada, by A. L. Kroeber. Pp. 251-318. September, 1907 .....	.75
	6. The Religion of the Indians of California, by A. L. Kroeber. Pp. 319-356. September, 1907 .....	.50
	Index, pp. 357-374.	
Vol. 5.	1. The Phonology of the Hupa Language; Part I, The Individual Sounds, by Pliny Earle Goddard. Pp. 1-20, plates 1-8. March, 1907 .....	.35
	2. Navaho Myths, Prayers and Songs, with Texts and Translations, by Washington Matthews, edited by Pliny Earle Goddard. Pp. 21-63. September, 1907 .....	.75
	3. Kato Texts, by Pliny Earle Goddard. Pp. 65-238, plate 9. December, 1909	2.50
	4. The Material Culture of the Klamath Lake and Modoc Indians of Northeastern California and Southern Oregon, by S. A. Barrett. Pp. 239-292, plates 10-25. June, 1910 .....	.75
	5. The Chimariko Indians and Language, by Roland B. Dixon. Pp. 293-380. August, 1910	1.00
	Index, pp. 381-384.	
Vol. 6.	1. The Ethno-Geography of the Pomo and Neighboring Indians, by Samuel Alfred Barrett. Pp. 1-332, maps 1-2. February, 1908	3.25
	2. The Geography and Dialects of the Miwok Indians, by Samuel Alfred Barrett. Pp. 333-368, map 3.	
	3. On the Evidence of the Occupation of Certain Regions by the Miwok Indians, by A. L. Kroeber. Pp. 369-380. Nos. 2 and 3 in one cover. February, 1908 .....	.50
	Index, pp. 381-400.	
Vol. 7.	1. The Emeryville Shellmound, by Max Uhle. Pp. 1-106, plates 1-12, with 38 text figures. June, 1907	1.25
	2. Recent Investigations bearing upon the Question of the Occurrence of Neocene Man in the Auriferous Gravels of California, by William J. Sinclair. Pp. 107-130, plates 13-14. February, 1908 .....	.35

UNIVERSITY OF CALIFORNIA PUBLICATIONS—(CONTINUED)

3. Pomo Indian Basketry, by S. A. Barrett. Pp. 133-306, plates 15-30, 231 text figures. December, 1908	1.75
4. Shellmounds of the San Francisco Bay Region, by N. O. Nelson. Pp. 309-356, plates 32-34. December, 1909 .....	.50
5. The Ellis Landing Shellmound, by N. O. Nelson. Pp. 357-426, plates 36-50. April, 1910 .....	.75
Index, pp. 427-443.	
Vol. 8. 1. A Mission Record of the California Indians, from a Manuscript in the Bancroft Library, by A. L. Kroeber. Pp. 1-27. May, 1908 .....	.25
2. The Ethnography of the Cahuilla Indians, by A. L. Kroeber. Pp. 29-68, plates 1-15. July, 1908 .....	.75
3. The Religion of the Luiseño and Diegueño Indians of Southern California, by Constance Goddard Dubois. Pp. 69-186, plates 16-19. June, 1908	1.25
4. The Culture of the Luiseño Indians, by Philip Stedman Sparkman. Pp. 187-234, plate 20. August, 1908 .....	.50
5. Notes on Shoshonean Dialects of Southern California, by A. L. Kroeber. Pp. 235-269. September, 1909 .....	.35
6. The Religious Practices of the Diegueño Indians, by T. T. Waterman. Pp. 271-358, plates 21-28. March, 1910 .....	.80
Index, pp. 359-369.	
Vol. 9. 1. Yana Texts, by Edward Sapir, together with Yana Myths collected by Roland B. Dixon. Pp. 1-235. February, 1910	2.50
2. The Chumash and Costanoan Languages, by A. L. Kroeber. Pp. 237-271. November, 1910 .....	.35
3. The Languages of the Coast of California North of San Francisco, by A. L. Kroeber. Pp. 273-435, and map. April, 1911	1.50
Index, pp. 437-439.	
Vol. 10. 1. Phonetic Constituents of the Native Languages of California, by A. L. Kroeber. Pp. 1-12. May, 1911 .....	.10
2. The Phonetic Elements of the Northern Paiute Language, by T. T. Waterman. Pp. 13-44, plates 1-5. November, 1911 .....	.45
3. Phonetic Elements of the Mohave Language, by A. L. Kroeber. Pp. 45-96, plates 6-20. November, 1911 .....	.65
Vol. 11. 1. Elements of the Kato Language, by Pliny Earle Goddard. Pp. 1-176, plates 1-45. October, 1912	2.00
Volumes now completed:	
Volume 1. 1903-1904. 378 pages and 30 plates	\$4.25
Volume 2. 1904-1907. 393 pages and 21 plates	3.50
Volume 3. 1905. The Morphology of the Hupa Language. 344 pages	3.50
Volume 4. 1906-1907. 374 pages, with 5 tables, 10 plates, and map	3.50
Volume 5. 1907-1910. 384 pages, with 25 plates	3.50
Volume 6. 1908. 400 pages, with 3 maps	3.50
Volume 7. 1907-1910. 443 pages and 50 plates	3.50
Volume 8. 1908-1910. 369 pages and 28 plates	3.50
Volume 9. 1910-1911. 439 pages	3.50

GRAECO-ROMAN ARCHAEOLOGY. (Large Octavo.) (Published by the Oxford University Press.)

Vol. 1. The Tebtunis Papyri, Part 1. 1902. Edited by Bernard P. Grenfell, Arthur S. Hunt, and J. Gilbert Smyly. xix + 674 pages, with 9 plates. Price	\$16.00
Vol. 2. The Tebtunis Papyri, Part 2. 1907. Edited by Bernard P. Grenfell, Arthur S. Hunt, and Edgar J. Goodspeed. xv + 485 pages, with 2 colotype plates and a map	16.00
Vol. 3. The Tebtunis Papyri, Part 3. (In preparation.)	

EGYPTIAN ARCHAEOLOGY. (Quarto.)

Vol. 1. The Hearst Medical Papyrus. Edited by G. A. Reisner. Hieratic text in 17 fac-simile plates in colotype, with introduction and vocabulary, pages 48, 1905. (J. C. Hinrichs, Leipzig, 25 marks.)
Vol. 2. The Early Dynastic Cemeteries of Naga-ed-Der, Part I, by George A. Reisner. xii + 160 pages, with 80 plates and 211 text figures. 1908. (J. C. Hinrichs, Leipzig, 75 marks.)
Vol. 3. The Early Dynastic Cemeteries at Naga-ed-Der, Part II, by A. C. Mace. xi + 88 pages, with 60 plates and 123 text figures. 1909. (J. C. Hinrichs, Leipzig, 50 marks.)
Vol. 4. The Predynastic Cemetery at Naga-ed-Der. The Anatomical Material, by Elliott Smith. (In preparation.)
Vol. 5. The Cemetery of the Second and Third Dynasties at Naga-ed-Der, by A. C. Mace. (In press.)
Vol. 6. The Cemetery of the Third and Fourth Dynasties at Naga-ed-Der, by G. A. Reisner. (In preparation.)
Vol. 7. The Coptic Cemeteries of Naga-ed-Der, by A. C. Mace. (In preparation.)

SPECIAL VOLUMES.

The Book of the Life of the Ancient Mexicans, containing an account of their rites and superstitions; an anonymous Hispano-American manuscript preserved in the Biblioteca Nazionale Centrale, Florence, Italy. Reproduced in fac-simile, with introduction, translation, and commentary, by Zelia Nuttall.

Part I. Preface, Introduction, and 80 fac-simile plates in colors. 1903.

Part II. Translation and Commentary. (In press.)

Price for the two parts \$25.00

The Department of Anthropology, Its History and Plan, 1905. Sent free on application to the Department, or to the University Press.

Note.—The University of California Publications are offered in exchange for the publications of learned societies and institutions, universities and libraries. Complete lists of all the publications of the University will be sent upon request. For sample copies, lists of publications or other information, address the Manager of the University Press, Berkeley, California, U. S. A. All matter sent in exchange should be addressed to The Exchange Department, University Library, Berkeley, California, U. S. A.

ASTRONOMY.—W. W. Campbell, Editor. (Lick Observatory, Mt. Hamilton, Cal.)

Publications of the Lick Observatory.—Volumes I-VI and VIII-X completed. Volume VII in progress.

BOTANY.—W. A. Setchell, Editor. Price per volume \$3.50. Volumes I (pp. 418), II (pp. 380), and III (pp. 400) completed. Volumes IV and V in progress.

CLASSICAL PHILOLOGY.—Edward B. Clapp, William A. Merrill, Herbert C. Nutting, Editors. Price per volume \$2.00. Volume I (pp. 270) completed. Volume II in progress.

ECONOMICS.—A. C. Miller, Editor.

EDUCATION.—Edited by the Department of Education. Price per volume \$2.50.

ENGINEERING.—Edited under the direction of the Engineering Departments. This series will contain contributions from the Colleges of Mechanics, Mining, and Civil Engineering. Volume I in progress.

GEOLOGY.—Bulletin of the Department of Geology. Andrew C. Lawson and John C. Merriam, Editors. Price per volume \$3.50. Volumes I (pp. 435), II (pp. 457), III (pp. 482), IV (pp. 462), and V (pp. 458) completed. Volumes VI and VII in progress.

MODERN PHILOLOGY.—Volumes I (pp. 400) and II (pp. 373) completed. Volume III in progress.

PATHOLOGY.—Alonso Englebert Taylor, Editor. Price per volume, \$2.50. Volume I (pp. 347) completed. Volume II in progress.

PHILOSOPHY.—G. H. Howison, Editor. Volume I (pp. 262) completed. Volume II in progress. Price per volume \$2.00.

PHYSIOLOGY.—S. S. Maxwell, Editor. Price per volume \$2.00. Volumes I (pp. 217), II (pp. 215), III (pp. 197) completed. Volume IV in progress.

PSYCHOLOGY.—George M. Stratton, Editor. Volume I in progress.

ZOOLOGY.—W. E. Ritter and C. A. Kofoed, Editors. Price per volume \$3.50. Volumes I (pp. 317), II (pp. 382), III (pp. 383), IV (pp. 400), V (pp. 440), VI (pp. 478), VII (pp. 446), VIII (pp. 357) completed. Volumes IX, X, and XI in progress. Commencing with Volume II, this series contains the Contributions from the Laboratory of the Marine Biological Association of San Diego.

MEMOIRS OF THE UNIVERSITY OF CALIFORNIA (Quarto).

- Vol. 1. 1. Triassic Ichthyosauria, with special reference to the American Forms, by John C. Merriam. Pp. 1-196; plates 1-18; 154 text-figures. September, 1908 \$3.00
2. The Fauna of Rancho La Brea, Part 1, Occurrence, by John C. Merriam. Pp. 197-213; plates 19-23. November, 1911 30
- Vol. 2. Silva of California, by W. L. Jepson. Pp. 480; plates 85. December, 1910. \$9; buckram, \$10; carriage extra.

UNIVERSITY OF CALIFORNIA CHRONICLE.—An official record of University life, issued quarterly, edited by a committee of the Faculty. Price, \$1.00 per year. Current volume No. XIII.

Address all orders or requests for information concerning the above publications to The University Press, Berkeley, California.

I. Soc. 120. Cy. 5

RECEIVED

MAY 11 1914

LIBRARY OF THE
PEABODY MUSEUM

UNIVERSITY OF CALIFORNIA PUBLICATIONS

IN

AMERICAN ARCHAEOLOGY AND ETHNOLOGY

Vol. 11, No. 2, pp. 177-188

April 30, 1914

PHONETIC ELEMENTS OF THE DIEGUENO LANGUAGE

BY

A. L. KROEBER AND J. P. HARRINGTON

UNIVERSITY OF CALIFORNIA PRESS
BERKELEY

UNIVERSITY OF CALIFORNIA PUBLICATIONS
DEPARTMENT OF ANTHROPOLOGY

The following publications dealing with archaeological and ethnological subjects issued under the direction of the Department of Anthropology are sent in exchange for the publications of anthropological departments and museums, and for journals devoted to general anthropology or to archaeology and ethnology. They are for sale at the prices stated, which include postage or express charges. Exchanges should be directed to The Exchange Department, University Library, Berkeley, California, U. S. A. All orders and remittances should be addressed to the University Press.

European agent for the series in American Archaeology and Ethnology, Classical Philology, Education, Modern Philology, Philosophy, and Semitic Philology, Otto Harrassowitz, Leipzig. For the series in Botany, Geology, Pathology, Physiology, Zoology and also American Archaeology and Ethnology, E. Friedlaender & Sohn, Berlin.

AMERICAN ARCHAEOLOGY AND ETHNOLOGY.—A. L. Kroeber, Editor. Price per volume \$3.50 (Vol. 1, \$4.25).

	Cited as Univ. Calif. Publ. Am. Arch. Ethn.	Price
Vol. 1.	1. Life and Culture of the Hupa, by Pliny Earle Goddard. Pp. 1-88; plates 1-30. September, 1903	\$1.25
	2. Hupa Texts, by Pliny Earle Goddard. Pp. 89-368. March, 1904	3.00
	Index, pp. 369-378.	
Vol. 2.	1. The Exploration of the Potter Creek Cave, by William J. Sinclair. Pp. 1-27; plates 1-14. April, 1904 .....	.40
	2. The Languages of the Coast of California South of San Francisco, by A. L. Kroeber. Pp. 29-80, with a map. June, 1904 .....	.60
	3. Types of Indian Culture in California, by A. L. Kroeber. Pp. 81-103. June, 1904 .....	.25
	4. Basket Designs of the Indians of Northwestern California, by A. L. Kroeber. Pp. 105-164; plates 15-21. January, 1905 .....	.75
	5. The Yokuts Language of South Central California, by A. L. Kroeber. Pp. 165-377. January, 1907	2.25
	Index, pp. 379-392.	
Vol. 3.	The Morphology of the Hupa Language, by Pliny Earle Goddard. 344 pp. June, 1905	3.50
Vol. 4.	1. The Earliest Historical Relations between Mexico and Japan, from original documents preserved in Spain and Japan, by Zelia Nuttall. Pp. 1-47. April, 1906 .....	.50
	2. Contribution to the Physical Anthropology of California, based on collections in the Department of Anthropology of the University of California, and in the U. S. National Museum, by Ales Hrdlicka. Pp. 49-64, with 5 tables; plates 1-10, and map. June, 1906 .....	.75
	3. The Shoshonean Dialects of California, by A. L. Kroeber. Pp. 65-166. February, 1907	1.50
	4. Indian Myths from South Central California, by A. L. Kroeber. Pp. 167-250. May, 1907 .....	.75
	5. The Washo Language of East Central California and Nevada, by A. L. Kroeber. Pp. 251-318. September, 1907 .....	.75
	6. The Religion of the Indians of California, by A. L. Kroeber. Pp. 319-356. September, 1907 .....	.50
	Index, pp. 357-374.	
Vol. 5.	1. The Phonology of the Hupa Language; Part I, The Individual Sounds, by Pliny Earle Goddard. Pp. 1-20, plates 1-8. March, 1907 .....	.35
	2. Navaho Myths, Prayers and Songs, with Texts and Translations, by Washington Matthews, edited by Pliny Earle Goddard. Pp. 21-63. September, 1907 .....	.75
	3. Kato Texts, by Pliny Earle Goddard. Pp. 65-232, plate 9. December, 1909	2.50
	4. The Material Culture of the Klamath Lake and Modoc Indians of Northeastern California and Southern Oregon, by S. A. Barrett. Pp. 239-292, plates 10-25. June, 1910 .....	.75
	5. The Ohimarike Indians and Language, by Roland B. Dixon. Pp. 293-380. August, 1910	1.00
	Index, pp. 381-384.	
Vol. 6.	1. The Ethno-Geography of the Pomo and Neighboring Indians, by Samuel Alfred Barrett. Pp. 1-332, maps 1-2. February, 1908	3.25
	2. The Geography and Dialects of the Miwok Indians, by Samuel Alfred Barrett. Pp. 333-368, map 3.	
	3. On the Evidence of the Occupation of Certain Regions by the Miwok Indians, by A. L. Kroeber. Pp. 369-380. Nos. 2 and 3 in one cover. February, 1908 .....	.50
	Index, pp. 381-400.	

UNIVERSITY OF CALIFORNIA PUBLICATIONS—(CONTINUED)

Vol. 7.	1. The Emeryville Shellmound, by Max Uhle. Pp. 1-106, plates 1-12, with 38 text figures. June, 1907	1.25
	2. Recent Investigations bearing upon the Question of the Occurrence of Neocene Man in the Auriferous Gravels of California, by William J. Sinclair. Pp. 107-130, plates 13-14. February, 1908	.35
	3. Pomo Indian Basketry, by S. A. Barrett. Pp. 133-306, plates 15-30, 231 text figures. December, 1908	1.75
	4. Shellmounds of the San Francisco Bay Region, by N. O. Nelson. Pp. 309-356, plates 32-34. December, 1909	.50
	5. The Ellis Landing Shellmound, by N. O. Nelson. Pp. 357-426, plates 36-50. April, 1910	.75
	Index, pp. 427-443.	
Vol. 8.	1. A Mission Record of the California Indians, from a Manuscript in the Bancroft Library, by A. L. Kroeber. Pp. 1-27. May, 1908	.25
	2. The Ethnography of the Cahuilla Indians, by A. L. Kroeber. Pp. 29-68, plates 1-15. July, 1908	.75
	3. The Religion of the Luiseño and Diegueño Indians of Southern California, by Constance Goddard Dubois. Pp. 69-186, plates 16-19. June, 1908	1.25
	4. The Culture of the Luiseño Indians, by Philip Stedman Sparkman. Pp. 187-234, plate 20. August, 1908	.50
	5. Notes on Shoshonean Dialects of Southern California, by A. L. Kroeber. Pp. 235-269. September, 1909	.35
	6. The Religious Practices of the Diegueño Indians, by T. T. Waterman. Pp. 271-358, plates 21-28. March, 1910	.80
	Index, pp. 359-369.	
Vol. 9.	1. Yana Texts, by Edward Sapir, together with Yana Myths collected by Roland B. Dixon. Pp. 1-235. February, 1910	2.50
	2. The Chumash and Oostanoan Languages, by A. L. Kroeber. Pp. 237-271. November, 1910	.35
	3. The Languages of the Coast of California North of San Francisco, by A. L. Kroeber. Pp. 273-435, and map. April, 1911	1.50
	Index, pp. 437-439.	
Vol. 10.	1. Phonetic Constituents of the Native Languages of California, by A. L. Kroeber. Pp. 1-12. May, 1911	.10
	2. The Phonetic Elements of the Northern Paiute Language, by T. T. Waterman. Pp. 13-44, plates 1-5. November, 1911	.45
	3. Phonetic Elements of the Mohave Language, by A. L. Kroeber. Pp. 45-96, plates 6-20. November, 1911	.65
	4. The Ethnology of the Salinan Indians, by J. Alden Mason. Pp. 97-240, plates 21-37. December, 1912	1.75
	5. Papago Verb Stems, by Juan Dolores. Pp. 241-263. August, 1913	.25
	6. Notes on the Chilula Indians of Northwestern California, by Pliny Earle Goddard. Pp. 265-288, plates 38-41. April, 1914	.30
Vol. 11.	1. Elements of the Kato Language, by Pliny Earle Goddard. Pp. 1-176, plates 1-45. October, 1912	2.00
	2. Phonetic Elements of the Diegueño Language, by A. L. Kroeber and J. P. Harrington. Pp. 177-188. April, 1914	.10
Volumes now completed:		
Volume 1.	1903-1904. 378 pages and 30 plates	\$4.25
Volume 2.	1904-1907. 393 pages and 21 plates	3.50
Volume 3.	1905. The Morphology of the Hupa Language. 344 pages	3.50
Volume 4.	1906-1907. 374 pages, with 5 tables, 10 plates, and map	3.50
Volume 5.	1907-1910. 384 pages, with 25 plates	3.50
Volume 6.	1908. 400 pages, with 3 maps	3.50
Volume 7.	1907-1910. 443 pages and 50 plates	3.50
Volume 8.	1908-1910. 369 pages and 28 plates	3.50
Volume 9.	1910-1911. 439 pages	3.50

GRAECO-ROMAN ARCHAEOLOGY. (Large Octavo.) (Published by the Oxford University Press.)

Vol. 1.	The Tebtunis Papyri, Part 1. 1902. Edited by Bernard P. Grenfell, Arthur S. Hunt, and J. Gilbert Smyly. xix + 674 pages, with 9 plates. Price	\$16.00
Vol. 2.	The Tebtunis Papyri, Part 2. 1907. Edited by Bernard P. Grenfell, Arthur S. Hunt, and Edgar J. Goodspeed. xv + 485 pages, with 2 colotype plates and a map	16.00

EGYPTIAN ARCHAEOLOGY. (Quarto.)

Vol. 1.	The Hearst Medical Papyrus. Edited by G. A. Reisner. Hieratic text in 17 fac-simile plates in collotype, with introduction and vocabulary, pages 48, 1905. (J. C. Hinrichs, Leipzig, 25 marks.)
---------	---

UNIVERSITY OF CALIFORNIA PUBLICATIONS—(CONTINUED)

- Vol. 2. The Early Dynastic Cemeteries of Naga-ed-Der, Part I, by George A. Reisner. xii + 160 pages, with 80 plates and 211 text figures. 1903. (J. C. Hinrichs, Leipzig, 75 marks.)
- Vol. 3. The Early Dynastic Cemeteries at Naga-ed-Der, Part II, by A. C. Mace. xi + 88 pages, with 60 plates and 123 text figures. 1909. (J. C. Hinrichs, Leipzig, 50 marks.)

SPECIAL VOLUMES.

The Book of the Life of the Ancient Mexicans, containing an account of their rites and superstitions; an anonymous Hispano-American manuscript preserved in the Biblioteca Nazionale Centrale, Florence, Italy. Reproduced in fac-simile, with introduction, translation, and commentary, by Zelia Nuttall.

Part I. Preface, Introduction, and 80 fac-simile plates in colors. 1903.....\$20.00

The Department of Anthropology, Its History and Plan, 1906. Sent free on application to the Department, or to the University Press.

Note.—The University of California Publications are offered in exchange for the publications of learned societies and institutions, universities and libraries. Complete lists of all the publications of the University will be sent upon request. For sample copies, lists of publications or other information, address the Manager of the University Press, Berkeley, California, U. S. A. All matter sent in exchange should be addressed to The Exchange Department, University Library, Berkeley, California, U. S. A.

ASTRONOMY.—W. W. Campbell, Editor. (Lick Observatory, Mt. Hamilton, Cal.)

Publications of the Lick Observatory.—Volumes I-XI completed.

BOTANY.—W. A. Setchell, Editor. Price per volume \$3.50. Volumes I (pp. 418), II (pp. 360), III (pp. 400), and IV (pp. 397) completed. Volumes V and VI in progress.

CLASSICAL PHILOLOGY.—Edward B. Clapp, William A. Merrill, Herbert C. Nottling, Editors. Price per volume \$2.00. Volume I (pp. 270) completed. Volume II in progress.

ECONOMICS.—A. O. Miller, Editor.

EDUCATION.—Edited by the Department of Education. Price per volume \$2.50.

ENGINEERING.—Edited under the direction of the Engineering Departments. This series will contain contributions from the Colleges of Mechanics, Mining, and Civil Engineering. Volume I in progress.

GEOGRAPHY.—Ruliff S. Holway, Editor. Volume I in progress.

GEOLOGY.—Bulletin of the Department of Geology. Andrew C. Lawson and John C. Merriam, Editors. Price per volume \$3.50. Volumes I (pp. 435), II (pp. 457), III (pp. 482), IV (pp. 462), V (pp. 458), VI (pp. 454), and VII (pp. 485, index in press) completed. Volume VIII in progress.

MODERN PHILOLOGY.—Volumes I (pp. 400) and II (pp. 373) completed. Volumes III and IV in progress.

PATHOLOGY.—Alonso Englebert Taylor, Editor. Price per volume, \$2.50. Volume I (pp. 347) completed. Volume II in progress.

PHILOSOPHY.—G. H. Howison, Editor. Volume I (pp. 282) completed. Volume II in progress. Price per volume \$2.00.

PHYSIOLOGY.—S. S. Maxwell, Editor. Price per volume \$2.00. Volumes I (pp. 217), II (pp. 215), III (pp. 197) completed. Volume IV in progress.

PSYCHOLOGY.—George M. Stratton, Editor. Volume I in progress.

ZOOLOGY.—W. E. Ritter and C. A. Kofoid, Editors. Price per volume \$3.50; Volume XI and following, \$5.00. Volumes I (pp. 317), II (pp. 382), III (pp. 383), IV (pp. 400), V (pp. 440), VI (pp. 478), VII (pp. 446), VIII (pp. 357), IX (pp. 365), X (pp. 417), and XI (pp. 528, index in press) completed. Volumes XII and XIII in progress.

UNIVERSITY OF CALIFORNIA OMBONIOLE.—An official record of University life, issued quarterly, edited by a committee of the Faculty. Price, \$1.00 per year. Current volume No. XVI.

Address all orders or requests for information concerning the above publications to The University Press, Berkeley, California.

European agent for the series in American Archaeology and Ethnology, Classical Philology, Education, Philosophy, and Semitic Philology, Otto Harrassowitz, Leipzig. For the series in Agricultural Sciences, Botany, Geography, Geology, Mathematics, Pathology, Physiology, Zoology, and also American Archaeology and Ethnology, E. Friedlaender & Sohn, Berlin.

RECEIVED

MAR 25 1915

LIBRARY OF THE
PEABODY MUSEUM

UNIVERSITY OF CALIFORNIA PUBLICATIONS

IN

AMERICAN ARCHAEOLOGY AND ETHNOLOGY

Vol. 11, No. 3, pp. 189-277

February 27, 1915

SARSI TEXTS

BY

PLINY EARLE GODDARD

UNIVERSITY OF CALIFORNIA PRESS
BERKELEY

UNIVERSITY OF CALIFORNIA PUBLICATIONS

DEPARTMENT OF ANTHROPOLOGY

The following publications dealing with archaeological and ethnological subjects issued under the direction of the Department of Anthropology are sent in exchange for the publications of anthropological departments and museums, and for journals devoted to general anthropology or to archaeology and ethnology. They are for sale at the prices stated, which include postage or express charges. Exchanges should be directed to The Exchange Department, University Library, Berkeley, California, U. S. A. All orders and remittances should be addressed to the University Press.

European agent for the series in American Archaeology and Ethnology, Classical Philology, Education, Modern Philology, Philosophy, and Semitic Philology, Otto Harrassowitz, Leipzig. For the series in Botany, Geology, Pathology, Physiology, Zoology and also American Archaeology and Ethnology, R. Friedlaender & Sohn, Berlin.

AMERICAN ARCHAEOLOGY AND ETHNOLOGY.—A. L. Kroeber, Editor. Price per volume \$3.50 (Vol. 1, \$4.25).

Cited as Univ. Calif. Publ. Am. Arch. Ethn.		Price
Vol. 1.	1. Life and Culture of the Hupa, by Pliny Earle Goddard. Pp. 1-88; plates 1-30. September, 1903	\$1.25
	2. Hupa Texts, by Pliny Earle Goddard. Pp. 89-368. March, 1904	3.00
	Index, pp. 369-378.	
Vol. 2.	1. The Exploration of the Potter Creek Cave, by William J. Sinclair. Pp. 1-27; plates 1-14. April, 1904 .....	.40
	2. The Languages of the Coast of California South of San Francisco, by A. L. Kroeber. Pp. 29-80, with a map. June, 1904 .....	.60
	3. Types of Indian Culture in California, by A. L. Kroeber. Pp. 81-103. June, 1904 .....	.35
	4. Basket Designs of the Indians of Northwestern California, by A. L. Kroeber. Pp. 105-164; plates 15-21. January, 1905 .....	.75
	5. The Yokuts Language of South Central California, by A. L. Kroeber. Pp. 165-377. January, 1907	2.25
	Index, pp. 379-392.	
Vol. 3.	The Morphology of the Hupa Language, by Pliny Earle Goddard. 344 pp. June, 1905	3.50
Vol. 4.	1. The Earliest Historical Relations between Mexico and Japan, from original documents preserved in Spain and Japan, by Zelia Nuttall. Pp. 1-47. April, 1906 .....	.50
	2. Contribution to the Physical Anthropology of California, based on collections in the Department of Anthropology of the University of California, and in the U. S. National Museum, by Ales Hrdlicka. Pp. 49-64, with 5 tables; plates 1-10, and map. June, 1906 .....	.75
	3. The Shoshonean Dialects of California, by A. L. Kroeber. Pp. 65-166. February, 1907	1.50
	4. Indian Myths from South Central California, by A. L. Kroeber. Pp. 167-250. May, 1907 .....	.75
	5. The Washo Language of East Central California and Nevada, by A. L. Kroeber. Pp. 251-318. September, 1907 .....	.75
	6. The Religion of the Indians of California, by A. L. Kroeber. Pp. 319-356. September, 1907 .....	.50
	Index, pp. 357-374.	
Vol. 5.	1. The Phonology of the Hupa Language; Part I, The Individual Sounds, by Pliny Earle Goddard. Pp. 1-20, plates 1-8. March, 1907 .....	.35
	2. Navaho Myths, Prayers and Songs, with Texts and Translations, by Washington Matthews, edited by Pliny Earle Goddard. Pp. 21-63. September, 1907 .....	.75
	3. Kato Texts, by Pliny Earle Goddard. Pp. 65-238, plate 9. December, 1909	2.50
	4. The Material Culture of the Klamath Lake and Modoc Indians of Northeastern California and Southern Oregon, by S. A. Barrett. Pp. 239-292, plates 10-25. June, 1910 .....	.75
	5. The Chimariko Indians and Language, by Roland B. Dixon. Pp. 293-380. August, 1910	1.00
	Index, pp. 381-384.	
Vol. 6.	1. The Ethno-Geography of the Pomo and Neighboring Indians, by Samuel Alfred Barrett. Pp. 1-332, maps 1-2. February, 1908	3.25
	2. The Geography and Dialects of the Miwok Indians, by Samuel Alfred Barrett. Pp. 333-368, map 3.	
	3. On the Evidence of the Occupation of Certain Regions by the Miwok Indians, by A. L. Kroeber. Pp. 369-380. Nos. 2 and 3 in one cover. February, 1908 .....	.50
	Index, pp. 381-400.	

UNIVERSITY OF CALIFORNIA PUBLICATIONS—(CONTINUED)

Vol. 7.	1. The Emeryville Shellmound, by Max Uhle. Pp. 1-106, plates 1-12, with 38 text figures. June, 1907	1.25
	2. Recent Investigations bearing upon the Question of the Occurrence of Neocene Man in the Auriferous Gravels of California, by William J. Sinclair. Pp. 107-130, plates 13-14. February, 1908 .....	.35
	3. Pomo Indian Basketry, by S. A. Barrett. Pp. 133-306, plates 15-30, 231 text figures. December, 1908	1.75
	4. Shellmounds of the San Francisco Bay Region, by N. O. Nelson. Pp. 309-356, plates 32-34. December, 1909 .....	.50
	5. The Ellis Landing Shellmound, by N. O. Nelson. Pp. 357-426, plates 36-50. April, 1910 .....	.75
	Index, pp. 427-443.	
Vol. 8.	1. A Mission Record of the California Indians, from a Manuscript in the Bancroft Library, by A. L. Kroeber. Pp. 1-27. May, 1908 .....	.25
	2. The Ethnography of the Cahulla Indians, by A. L. Kroeber. Pp. 29-68, plates 1-15. July, 1908 .....	.75
	3. The Religion of the Luisefio and Dieguefio Indians of Southern California, by Constance Goddard Dubois. Pp. 69-186, plates 16-19. June, 1908	1.25
	4. The Culture of the Luisefio Indians, by Philip Stedman Sparkman. Pp. 187-234, plate 20. August, 1908 .....	.50
	5. Notes on Shoshonean Dialects of Southern California, by A. L. Kroeber. Pp. 235-269. September, 1909 .....	.35
	6. The Religious Practices of the Dieguefio Indians, by T. T. Waterman. Pp. 271-358, plates 21-28. March, 1910 .....	.80
	Index, pp. 359-369.	
Vol. 9.	1. Yana Texts, by Edward Sapir, together with Yana Myths collected by Roland B. Dixon. Pp. 1-235. February, 1910	2.50
	2. The Ohumash and Costanoan Languages, by A. L. Kroeber. Pp. 237-271. November, 1910 .....	.35
	3. The Languages of the Coast of California North of San Francisco, by A. L. Kroeber. Pp. 273-435, and map. April, 1911	1.50
	Index, pp. 437-439.	
Vol. 10.	1. Phonetic Constituents of the Native Languages of California, by A. L. Kroeber. Pp. 1-12. May, 1911 .....	.10
	2. The Phonetic Elements of the Northern Paiute Language, by T. T. Waterman. Pp. 13-44, plates 1-5. November, 1911 .....	.45
	3. Phonetic Elements of the Mohave Language, by A. L. Kroeber. Pp. 45-96, plates 6-20. November, 1911 .....	.65
	4. The Ethnology of the Salinan Indians, by J. Alden Mason. Pp. 97-240, plates 21-37. December, 1912	1.75
	5. Papago Verb Stems, by Juan Dolores. Pp. 241-263. August, 1913 .....	.25
	6. Notes on the Chilula Indians of Northwestern California, by Pliny Earle Goddard. Pp. 265-288, plates 38-41. April, 1914 .....	.30
	7. Chilula Texts, by Pliny Earle Goddard. Pp. 289-379. November, 1914	1.00
	Index in press.	
Vol. 11.	1. Elements of the Kato Language, by Pliny Earle Goddard. Pp. 1-176, plates 1-45. October, 1912	2.00
	2. Phonetic Elements of the Dieguefio Language, by A. L. Kroeber and J. P. Harrington. Pp. 177-188. April, 1914 .....	.10
	3. Sarsi Texts, by Pliny Earle Goddard. Pp. 189-277. February, 1915	1.00
	4. Serian, Tequistlatecan, and Hokan, by A. L. Kroeber. Pp. 279-290. February, 1915 .....	.10
Volumes now completed:		
Volume 1.	1903-1904. 378 pages and 30 plates	\$4.25
Volume 2.	1904-1907. 393 pages and 21 plates	3.50
Volume 3.	1905. The Morphology of the Hupa Language. 344 pages	3.50
Volume 4.	1906-1907. 374 pages, with 5 tables, 10 plates, and map	3.50
Volume 5.	1907-1910. 384 pages, with 25 plates	3.50
Volume 6.	1908. 400 pages, with 3 maps	3.50
Volume 7.	1907-1910. 443 pages and 50 plates	3.50
Volume 8.	1908-1910. 369 pages and 28 plates	3.50
Volume 9.	1910-1911. 439 pages	3.50

UNIVERSITY OF CALIFORNIA PUBLICATIONS—(CONTINUED)

Note.—The University of California Publications are offered in exchange for the publications of learned societies and institutions, universities and libraries. Complete lists of all the publications of the University will be sent upon request. For sample copies, lists of publications or other information, address the Manager of the University Press, Berkeley, California, U. S. A. All matter sent in exchange should be addressed to The Exchange Department, University Library, Berkeley, California, U. S. A.

AGRICULTURAL SCIENCES.—E. B. Babcock, J. W. Gilmore, and C. B. Lipman, Editors. Price per volume, \$3.50. Volumes I and II in progress.

ASTRONOMY.—W. W. Campbell, Editor. (Lick Observatory, Mt. Hamilton, Cal.) Publications of the Lick Observatory.—Volumes I-XII completed.

BOTANY.—W. A. Setchell, Editor. Price per volume \$3.50. Volumes I (pp. 418), II (pp. 380), III (pp. 400), and IV (pp. 397) completed. Volumes V and VI in progress.

CLASSICAL PHILOLOGY.—Edward B. Clapp, William A. Merrill, Herbert O. Nutting, Editors. Price per volume \$2.00. Volume I (pp. 270) completed. Volume II in progress.

ECONOMICS.—A. C. Miller, Editor.

EDUCATION.—Edited by the Department of Education. Price per volume \$2.50.

ENGINEERING.—Edited under the direction of the Engineering Departments. This series will contain contributions from the Colleges of Mechanics, Mining, and Civil Engineering. Volume I in progress.

GEOGRAPHY.—Rudolf S. Holway, Editor. Volume I in progress.

GEOLOGY.—Bulletin of the Department of Geology. Andrew C. Lawson and John C. Merriam, Editors. Price per volume \$3.50. Volumes I (pp. 435), II (pp. 457), III (pp. 482), IV (pp. 462), V (pp. 458), VI (pp. 454), and VII (pp. 504) completed. Volume VIII in progress.

MODERN PHILOLOGY.—Volumes I (pp. 400) and II (pp. 373) completed. Volumes III and IV in progress.

PATHOLOGY.—Frederick P. Gay, Editor. Price per volume, \$2.50. Volume I (pp. 347) completed. Volume II in progress.

PHILOSOPHY.—G. H. Howison, Editor. Volume I (pp. 282) completed. Volume II in progress. Price per volume \$2.00.

PHYSIOLOGY.—S. S. Maxwell, Editor. Price per volume \$2.00. Volumes I (pp. 217), II (pp. 215), III (pp. 197) completed. Volume IV in progress.

PSYCHOLOGY.—George M. Stratton, Editor. Volume I in progress.

ZOOLOGY.—W. E. Ritter and C. A. Kofoid, Editors. Price per volume for volumes I-X, \$3.50; for volume XI and following, \$5.00. Volumes I (pp. 317), II (pp. 382), III (pp. 383), IV (pp. 400), V (pp. 440), VI (pp. 478), VII (pp. 446), VIII (pp. 357), IX (pp. 365), X (pp. 417), and XI (pp. 538) completed. Volumes XII, XIII, and XIV in progress.

UNIVERSITY OF CALIFORNIA CHRONICLE.—An official record of University life, issued quarterly, edited by a committee of the Faculty. Price, \$1.00 per year. Current volume No. XVII.

Address all orders or requests for information concerning the above publications to The University Press, Berkeley, California.

European agent for the series in American Archaeology and Ethnology, Classical Philology, Education, Philosophy, and Semitic Philology, Otto Harrassowitz, Leipzig. For the series in Agricultural Sciences, Botany, Geography, Geology, Mathematics, Pathology, Physiology, Zoology, and also American Archaeology and Ethnology, R. Friedlaender & Sohn, Berlin.

RECEIVED

MAR 5 1915

UNIVERSITY OF CALIFORNIA PUBLICATIONS
IN
AMERICAN ARCHAEOLOGY AND ETHNOLOGY

LIBRARY OF THE
PEABODY MUSEUM

Vol. 11, No. 4, pp. 279-290

February 10, 1915

SERIAN, TEQUISTLATECAN, AND HOKAN

BY

A. L. KROEBER

UNIVERSITY OF CALIFORNIA PRESS
BERKELEY

UNIVERSITY OF CALIFORNIA PUBLICATIONS
DEPARTMENT OF ANTHROPOLOGY

The following publications dealing with archaeological and ethnological subjects issued under the direction of the Department of Anthropology are sent in exchange for the publications of anthropological departments and museums, and for journals devoted to general anthropology or to archaeology and ethnology. They are for sale at the prices stated, which include postage or express charges. Exchanges should be directed to The Exchange Department, University Library, Berkeley, California, U. S. A. All orders and remittances should be addressed to the University Press.

European agent for the series in American Archaeology and Ethnology, Classical Philology, Education, Modern Philology, Philosophy, and Semitic Philology, Otto Harrassowitz, Leipzig. For the series in Botany, Geology, Pathology, Physiology, Zoology and also American Archaeology and Ethnology, B. Friedlaender & Sohn, Berlin.

AMERICAN ARCHAEOLOGY AND ETHNOLOGY.—A. L. Kroeber, Editor. Price per volume \$3.50 (Vol. 1, \$4.25).

Cited as Univ. Calif. Publ. Am. Arch. Ethn.		Price
Vol. 1.	1. Life and Culture of the Hupa, by Pliny Earle Goddard. Pp. 1-88; plates 1-30. September, 1903	\$1.25
	2. Hupa Texts, by Pliny Earle Goddard. Pp. 89-368. March, 1904	3.00
	Index, pp. 369-378.	
Vol. 2.	1. The Exploration of the Potter Creek Cave, by William J. Sinclair. Pp. 1-27; plates 1-14. April, 1904 .....	.40
	2. The Languages of the Coast of California South of San Francisco, by A. L. Kroeber. Pp. 29-80, with a map. June, 1904 .....	.60
	3. Types of Indian Culture in California, by A. L. Kroeber. Pp. 81-103. June, 1904 .....	.25
	4. Basket Designs of the Indians of Northwestern California, by A. L. Kroeber. Pp. 106-164; plates 15-21. January, 1905 .....	.75
	5. The Yokuts Language of South Central California, by A. L. Kroeber. Pp. 165-377. January, 1907	2.25
	Index, pp. 379-392.	
Vol. 3.	The Morphology of the Hupa Language, by Pliny Earle Goddard. 344 pp. June, 1906	3.50
Vol. 4.	1. The Earliest Historical Relations between Mexico and Japan, from original documents preserved in Spain and Japan, by Zelia Nuttall. Pp. 1-47. April, 1906 .....	.50
	2. Contribution to the Physical Anthropology of California, based on collections in the Department of Anthropology of the University of California, and in the U. S. National Museum, by Ales Hrdlicka. Pp. 49-64, with 5 tables; plates 1-10, and map. June, 1906 .....	.75
	3. The Shoshonean Dialects of California, by A. L. Kroeber. Pp. 65-166. February, 1907	1.50
	4. Indian Myths from South Central California, by A. L. Kroeber. Pp. 167-250. May, 1907 .....	.75
	5. The Washo Language of East Central California and Nevada, by A. L. Kroeber. Pp. 251-318. September, 1907 .....	.75
	6. The Religion of the Indians of California, by A. L. Kroeber. Pp. 319-356. September, 1907 .....	.50
	Index, pp. 357-374.	
Vol. 5.	1. The Phonology of the Hupa Language; Part I, The Individual Sounds, by Pliny Earle Goddard. Pp. 1-20, plates 1-8. March, 1907 .....	.35
	2. Navaho Myths, Prayers and Songs, with Texts and Translations, by Washington Matthews, edited by Pliny Earle Goddard. Pp. 21-63. September, 1907 .....	.75
	3. Kato Texts, by Pliny Earle Goddard. Pp. 65-238, plate 9. December, 1909	2.50
	4. The Material Culture of the Klamath Lake and Modoc Indians of Northeastern California and Southern Oregon, by E. A. Barrett. Pp. 239-292, plates 10-25. June, 1910 .....	.75
	5. The Chimariko Indians and Language, by Roland B. Dixon. Pp. 293-380. August, 1910	1.00
	Index, pp. 381-384.	
Vol. 6.	1. The Ethno-Geography of the Pomo and Neighboring Indians, by Samuel Alfred Barrett. Pp. 1-332, maps 1-2. February, 1908	3.25
	2. The Geography and Dialects of the Miwok Indians, by Samuel Alfred Barrett. Pp. 333-368, map 3.	
	3. On the Evidence of the Occupation of Certain Regions by the Miwok Indians, by A. L. Kroeber. Pp. 369-380. Nos. 2 and 3 in one cover. February, 1908 .....	.50
	Index, pp. 381-400.	

UNIVERSITY OF CALIFORNIA PUBLICATIONS—(CONTINUED)

Vol. 7.	1. The Emeryville Shellmound, by Max Uhle. Pp. 1-106, plates 1-12, with 38 text figures. June, 1907	1.25
	2. Recent Investigations bearing upon the Question of the Occurrence of Neocene Man in the Auriferous Gravels of California, by William J. Sinclair. Pp. 107-130, plates 13-14. February, 1908 .....	.35
	3. Pomo Indian Basketry, by S. A. Barrett. Pp. 133-306, plates 15-30, 231 text figures. December, 1908	1.75
	4. Shellmounds of the San Francisco Bay Region, by N. O. Nelson. Pp. 309-356, plates 32-34. December, 1909 .....	.50
	5. The Ellis Landing Shellmound, by N. O. Nelson. Pp. 357-426, plates 36-50. April, 1910 .....	.75
	Index, pp. 427-443.	
Vol. 8.	1. A Mission Record of the California Indians, from a Manuscript in the Bancroft Library, by A. L. Kroeber. Pp. 1-27. May, 1908 .....	.25
	2. The Ethnography of the Cahuilla Indians, by A. L. Kroeber. Pp. 29-68, plates 1-15. July, 1908 .....	.75
	3. The Religion of the Luiseno and Diegueño Indians of Southern California, by Constance Goddard Dubois. Pp. 69-186, plates 16-19. June, 1908	1.25
	4. The Culture of the Luiseno Indians, by Philip Stedman Sparkman. Pp. 187-234, plate 20. August, 1908 .....	.50
	5. Notes on Shoshonean Dialects of Southern California, by A. L. Kroeber. Pp. 235-269. September, 1909 .....	.35
	6. The Religious Practices of the Diegueño Indians, by T. T. Waterman. Pp. 271-358, plates 21-28. March, 1910 .....	.80
	Index, pp. 359-369.	
Vol. 9.	1. Yana Texts, by Edward Sapir, together with Yana Myths collected by Roland B. Dixon. Pp. 1-235. February, 1910	2.50
	2. The Chumash and Costanoan Languages, by A. L. Kroeber. Pp. 237-271. November, 1910 .....	.35
	3. The Languages of the Coast of California North of San Francisco, by A. L. Kroeber. Pp. 273-435, and map. April, 1911	1.50
	Index, pp. 437-439.	
Vol. 10.	1. Phonetic Constituents of the Native Languages of California, by A. L. Kroeber. Pp. 1-12. May, 1911 .....	.10
	2. The Phonetic Elements of the Northern Paiute Language, by T. T. Waterman. Pp. 13-44, plates 1-5. November, 1911 .....	.45
	3. Phonetic Elements of the Mohave Language, by A. L. Kroeber. Pp. 45-96, plates 6-20. November, 1911 .....	.65
	4. The Ethnology of the Salinan Indians, by J. Alden Mason. Pp. 97-240, plates 21-37. December, 1912	1.75
	5. Papago Verb Stems, by Juan Dolores. Pp. 241-263. August, 1913 .....	.25
	6. Notes on the Chilina Indians of Northwestern California, by Pliny Earle Goddard. Pp. 265-288, plates 38-41. April, 1914 .....	.30
	7. Chilina Texts, by Pliny Earle Goddard. Pp. 289-379. November, 1914	1.00
	Index in press.	
Vol. 11.	1. Elements of the Kato Language, by Pliny Earle Goddard. Pp. 1-176, plates 1-45. October, 1912	2.00
	2. Phonetic Elements of the Diegueño Language, by A. L. Kroeber and J. P. Harrington. Pp. 177-188. April, 1914 .....	.10
	3. Sarsi Texts, by Pliny Earle Goddard. Pp. 189-277	(In press)
	4. Serian, Tequistlatecan, and Hokan, by A. L. Kroeber. Pp. 279-290. February, 1915 .....	.10
Volumes now completed:		
Volume 1.	1903-1904. 378 pages and 30 plates	\$4.25
Volume 2.	1904-1907. 393 pages and 21 plates	3.50
Volume 3.	1905. The Morphology of the Hupa Language. 344 pages	3.50
Volume 4.	1906-1907. 374 pages, with 5 tables, 10 plates, and map	3.50
Volume 5.	1907-1910. 384 pages, with 25 plates	3.50
Volume 6.	1908. 400 pages, with 3 maps	3.50
Volume 7.	1907-1910. 443 pages and 50 plates	3.50
Volume 8.	1908-1910. 369 pages and 28 plates	3.50
Volume 9.	1910-1911. 439 pages	3.50

UNIVERSITY OF CALIFORNIA PUBLICATIONS—(CONTINUED)

Note.—The University of California Publications are offered in exchange for the publications of learned societies and institutions, universities and libraries. Complete lists of all the publications of the University will be sent upon request. For sample copies, lists of publications or other information, address the Manager of the University Press, Berkeley, California, U. S. A. All matter sent in exchange should be addressed to The Exchange Department, University Library, Berkeley, California, U. S. A.

AGRICULTURAL SCIENCES.—E. B. Babcock, J. W. Gilmore, and C. B. Lipman, Editors. Price per volume, \$3.50. Volumes I and II in progress.

ASTRONOMY.—W. W. Campbell, Editor. (Lick Observatory, Mt. Hamilton, Cal.) Publications of the Lick Observatory.—Volumes I-XI completed.

BOTANY.—W. A. Setchell, Editor. Price per volume \$3.50. Volumes I (pp. 418), II (pp. 360), III (pp. 400), and IV (pp. 397) completed. Volumes V and VI in progress.

CLASSICAL PHILOLOGY.—Edward B. Clapp, William A. Merrill, Herbert O. Nutting, Editors. Price per volume \$2.00. Volume I (pp. 270) completed. Volume II in progress.

ECONOMICS.—A. C. Miller, Editor.

EDUCATION.—Edited by the Department of Education. Price per volume \$2.50.

ENGINEERING.—Edited under the direction of the Engineering Departments. This series will contain contributions from the Colleges of Mechanics, Mining, and Civil Engineering. Volume I in progress.

GEOGRAPHY.—Rulif S. Holway, Editor. Volume I in progress.

GEOLOGY.—Bulletin of the Department of Geology. Andrew C. Lawson and John C. Merriam, Editors. Price per volume \$3.50. Volumes I (pp. 435), II (pp. 457), III (pp. 482), IV (pp. 462), V (pp. 458), VI (pp. 454), and VII (pp. 495, index in press) completed. Volume VIII in progress.

MODERN PHILOLOGY.—Volumes I (pp. 400) and II (pp. 373) completed. Volumes III and IV in progress.

PATHOLOGY.—Frederick P. Gay, Editor. Price per volume, \$2.50. Volume I (pp. 347) completed. Volume II in progress.

PHILOSOPHY.—G. H. Howison, Editor. Volume I (pp. 262) completed. Volume II in progress. Price per volume \$2.00.

PHYSIOLOGY.—S. S. Maxwell, Editor. Price per volume \$2.00. Volumes I (pp. 217), II (pp. 215), III (pp. 197) completed. Volume IV in progress.

PSYCHOLOGY.—George M. Stratton, Editor. Volume I in progress.

ZOOLOGY.—W. E. Ritter and C. A. Kofoid, Editors. Price per volume for volumes I-X, \$3.50; for volume XI and following, \$5.00. Volumes I (pp. 317), II (pp. 382), III (pp. 383), IV (pp. 400), V (pp. 440), VI (pp. 478), VII (pp. 446), VIII (pp. 357), IX (pp. 365), X (pp. 417), and XI (pp. 538) completed. Volumes XII and XIII in progress.

UNIVERSITY OF CALIFORNIA CHRONICLE.—An official record of University life, issued quarterly, edited by a committee of the Faculty. Price, \$1.00 per year. Current volume No. XVII.

Address all orders or requests for information concerning the above publications to The University Press, Berkeley, California.

European agent for the series in American Archaeology and Ethnology, Classical Philology, Education, Philosophy, and Semitic Philology, Otto Harrassowitz, Leipzig. For the series in Agricultural Sciences, Botany, Geography, Geology, Mathematics, Pathology, Physiology, Zoology, and also American Archaeology and Ethnology, R. Friedlaender & Sohn, Berlin.

UNIVERSITY OF CALIFORNIA PUBLICATIONS

IN

AMERICAN ARCHAEOLOGY AND ETHNOLOGY

Vol. 11, No. 5, pp. 291-296

RECEIVED 1

MAR 2 1916

LIBRARY OF THE
PEABODY MUSEUM
FEBRUARY 1, 1916

DICHOTOMOUS SOCIAL ORGANIZATION IN SOUTH CENTRAL CALIFORNIA

BY

EDWARD WINSLOW GIFFORD

UNIVERSITY OF CALIFORNIA PRESS
BERKELEY

UNIVERSITY OF CALIFORNIA PUBLICATIONS

DEPARTMENT OF ANTHROPOLOGY

The following publications dealing with archaeological and ethnological subjects issued under the direction of the Department of Anthropology are sent in exchange for the publications of anthropological departments and museums, and for journals devoted to general anthropology or to archaeology and ethnology. They are for sale at the prices stated, which include postage or express charges. Exchanges should be directed to The Exchange Department, University Library, Berkeley, California, U. S. A. All orders and remittances should be addressed to the University Press.

European agent for the series in American Archaeology and Ethnology, Classical Philology, Education, Modern Philology, Philosophy, and Semitic Philology, Otto Harrassowitz, Leipzig. For the series in Botany, Geology, Pathology, Physiology, Zoology and also American Archaeology and Ethnology, R. Friedlaender & Sohn, Berlin.

AMERICAN ARCHAEOLOGY AND ETHNOLOGY.—A. L. Kroeber, Editor. Price per volume \$3.50 (Vol. 1, \$4.25).

	Cited as Univ. Calif. Publ. Am. Arch. Ethn.	Price
Vol. 1.	1. Life and Culture of the Hupa, by Pliny Earle Goddard. Pp. 1-88; plates 1-30. September, 1903	\$1.25
	2. Hupa Texts, by Pliny Earle Goddard. Pp. 89-368. March, 1904	3.00
	Index, pp. 369-378.	
Vol. 2.	1. The Exploration of the Potter Creek Cave, by William J. Sinclair. Pp. 1-27; plates 1-14. April, 1904 .....	.40
	2. The Languages of the Coast of California South of San Francisco, by A. L. Kroeber. Pp. 29-80, with a map. June, 1904 .....	.60
	3. Types of Indian Culture in California, by A. L. Kroeber. Pp. 81-103. June, 1904 .....	.35
	4. Basket Designs of the Indians of Northwestern California, by A. L. Kroeber. Pp. 105-164; plates 15-21. January, 1905 .....	.75
	5. The Yokuts Language of South Central California, by A. L. Kroeber. Pp. 165-377. January, 1907	2.25
	Index, pp. 379-392.	
Vol. 3.	The Morphology of the Hupa Language, by Pliny Earle Goddard. 344 pp. June, 1905	3.50
Vol. 4.	1. The Earliest Historical Relations between Mexico and Japan, from original documents preserved in Spain and Japan, by Zelia Nuttall. Pp. 1-47. April, 1906 .....	.50
	2. Contribution to the Physical Anthropology of California, based on collections in the Department of Anthropology of the University of California, and in the U. S. National Museum, by Ales Hrdlicka. Pp. 49-64, with 5 tables; plates 1-10, and map. June, 1906 .....	.75
	3. The Shoshonean Dialects of California, by A. L. Kroeber. Pp. 65-166. February, 1907	1.50
	4. Indian Myths from South Central California, by A. L. Kroeber. Pp. 167-250. May, 1907 .....	.75
	5. The Washo Language of East Central California and Nevada, by A. L. Kroeber. Pp. 251-318. September, 1907 .....	.75
	6. The Religion of the Indians of California, by A. L. Kroeber. Pp. 319-356. September, 1907 .....	.50
	Index, pp. 357-374.	
Vol. 5.	1. The Phonology of the Hupa Language; Part I, The Individual Sounds, by Pliny Earle Goddard. Pp. 1-20, plates 1-8. March, 1907 .....	.35
	2. Navaho Myths, Prayers and Songs, with Texts and Translations, by Washington Matthews, edited by Pliny Earle Goddard. Pp. 21-63. September, 1907 .....	.75
	3. Kato Texts, by Pliny Earle Goddard. Pp. 65-238, plate 9. December, 1909	2.50
	4. The Material Culture of the Klamath Lake and Modoc Indians of Northeastern California and Southern Oregon, by S. A. Barrett. Pp. 239-292, plates 10-25. June, 1910 .....	.75
	5. The Ohimarike Indians and Language, by Roland B. Dixon. Pp. 293-380. August, 1910	1.00
	Index, pp. 381-384.	
Vol. 6.	1. The Ethno-Geography of the Pomo and Neighboring Indians, by Samuel Alfred Barrett. Pp. 1-382, maps 1-2. February, 1908	3.25
	2. The Geography and Dialects of the Miwok Indians, by Samuel Alfred Barrett. Pp. 333-368, map 3.	
	3. On the Evidence of the Occupation of Certain Regions by the Miwok Indians, by A. L. Kroeber. Pp. 369-380. Nos. 2 and 3 in one cover. February, 1908 .....	.50
	Index, pp. 381-400.	

UNIVERSITY OF CALIFORNIA PUBLICATIONS—(CONTINUED)

Vol. 7.	1. The Emeryville Shellmound, by Max Uhle. Pp. 1-106, plates 1-12, with 38 text figures. June, 1907	1.25
	2. Recent Investigations bearing upon the Question of the Occurrence of Neocene Man in the Auriferous Gravels of California, by William J. Sinclair. Pp. 107-130, plates 13-14. February, 1908 .....	.35
	3. Pomo Indian Basketry, by S. A. Barrett. Pp. 133-306, plates 15-30, 231 text figures. December, 1908	1.75
	4. Shellmounds of the San Francisco Bay Region, by N. C. Nelson. Pp. 309-356, plates 32-34. December, 1909 .....	.50
	5. The Ellis Landing Shellmound, by N. C. Nelson. Pp. 357-426, plates 36-50. April, 1910 .....	.75
	Index, pp. 427-443.	
Vol. 8.	1. A Mission Record of the California Indians, from a Manuscript in the Bancroft Library, by A. L. Kroeber. Pp. 1-27. May, 1908 .....	.25
	2. The Ethnography of the Cahuilla Indians, by A. L. Kroeber. Pp. 29-68, plates 1-15. July, 1908 .....	.75
	3. The Religion of the Luiseño and Diegueño Indians of Southern California, by Constance Goddard Dubois. Pp. 69-186, plates 16-19. June, 1908	1.25
	4. The Culture of the Luiseño Indians, by Philip Stedman Sparkman. Pp. 187-234, plate 20. August, 1908 .....	.50
	5. Notes on Shoshonean Dialects of Southern California, by A. L. Kroeber. Pp. 235-269. September, 1909 .....	.35
	6. The Religious Practices of the Diegueño Indians, by T. T. Waterman. Pp. 271-358, plates 21-28. March, 1910 .....	.80
	Index, pp. 359-369.	
Vol. 9.	1. Yana Texts, by Edward Sapir, together with Yana Myths collected by Roland B. Dixon. Pp. 1-235. February, 1910	2.50
	2. The Chumash and Costanoan Languages, by A. L. Kroeber. Pp. 237-271. November, 1910 .....	.35
	3. The Languages of the Coast of California North of San Francisco, by A. L. Kroeber. Pp. 273-435, and map. April, 1911	1.50
	Index, pp. 437-439.	
Vol. 10.	1. Phonetic Constituents of the Native Languages of California, by A. L. Kroeber. Pp. 1-12. May, 1911 .....	.10
	2. The Phonetic Elements of the Northern Paiute Language, by T. T. Waterman. Pp. 13-44, plates 1-5. November, 1911 .....	.45
	3. Phonetic Elements of the Mohave Language, by A. L. Kroeber. Pp. 45-96, plates 6-20. November, 1911 .....	.65
	4. The Ethnology of the Salinan Indians, by J. Alden Mason. Pp. 97-240, plates 21-37. December, 1912	1.75
	5. Papago Verb Stems, by Juan Dolores. Pp. 241-263. August, 1913 .....	.25
	6. Notes on the Chilula Indians of Northwestern California, by Pliny Earle Goddard. Pp. 265-288, plates 38-41. April, 1914 .....	.30
	7. Chilula Texts, by Pliny Earle Goddard. Pp. 289-379. November, 1914	1.00
	Index in press.	
Vol. 11.	1. Elements of the Kato Language, by Pliny Earle Goddard. Pp. 1-176, plates 1-45. October, 1912	2.00
	2. Phonetic Elements of the Diegueño Language, by A. L. Kroeber and J. P. Harrington. Pp. 177-188. April, 1914 .....	.10
	3. Sarsi Texts, by Pliny Earle Goddard. Pp. 189-277. February, 1915	1.00
	4. Serian, Tequistlatecan, and Hokan, by A. L. Kroeber. Pp. 279-290. February, 1915 .....	.10
	5. Dichotomous Social Organization in South Central California, by Edward Winslow Gifford. Pp. 291-296. February, 1916 .....	.05
Volumes now completed:		
Volume 1.	1903-1904. 378 pages and 30 plates	\$4.25
Volume 2.	1904-1907. 393 pages and 21 plates	3.50
Volume 3.	1905. The Morphology of the Hupa Language. 344 pages	3.50
Volume 4.	1906-1907. 374 pages, with 5 tables, 10 plates, and map	3.50
Volume 5.	1907-1910. 384 pages, with 25 plates	3.50
Volume 6.	1908. 400 pages, with 3 maps	3.50
Volume 7.	1907-1910. 443 pages and 50 plates	3.50
Volume 8.	1908-1910. 369 pages and 28 plates	3.50
Volume 9.	1910-1911. 439 pages	3.50

UNIVERSITY OF CALIFORNIA PUBLICATIONS—(CONTINUED)

Note.—The University of California Publications are offered in exchange for the publications of learned societies and institutions, universities and libraries. Complete lists of all the publications of the University will be sent upon request. For sample copies, lists of publications or other information, address the Manager of the University Press, Berkeley, California, U. S. A. All matter sent in exchange should be addressed to The Exchange Department, University Library, Berkeley, California, U. S. A.

AGRICULTURAL SCIENCES.—E. B. Babcock, J. W. Gilmora, and C. B. Lipman, Editors. Price per volume, \$3.50. Volumes I and II in progress.

ASTRONOMY.—W. W. Campbell, Editor. (Lick Observatory, Mt. Hamilton, Cal.) Publications of the Lick Observatory.—Volumes I-XII completed.

BOTANY.—W. A. Setchell, Editor. Price per volume \$3.50. Volumes I (pp. 418), II (pp. 360), III (pp. 400), and IV (pp. 387) completed. Volumes V and VI in progress.

CLASSICAL PHILOLOGY.—Edward B. Clapp, William A. Merrill, Herbert O. Nutting, Editors. Price per volume \$2.00. Volume I (pp. 270) completed. Volume II in progress.

ECONOMICS.—A. C. Miller, Editor.

EDUCATION.—Edited by the Department of Education. Price per volume \$2.50.

ENGINEERING.—Edited under the direction of the Engineering Departments. This series will contain contributions from the Colleges of Mechanics, Mining, and Civil Engineering. Volume I in progress.

GEOGRAPHY.—Ruliff S. Holway, Editor. Volume I in progress.

GEOLOGY.—Bulletin of the Department of Geology. Andrew C. Lawson and John C. Merriam, Editors. Price per volume \$3.50. Volumes I (pp. 435), II (pp. 457), III (pp. 482), IV (pp. 462), V (pp. 458), VI (pp. 454), and VII (pp. 504) completed. Volume VIII in progress.

MODERN PHILOLOGY.—Volumes I (pp. 400) and II (pp. 373) completed. Volumes III and IV in progress.

PATHOLOGY.—Frederick P. Gay, Editor. Price per volume, \$2.50. Volume I (pp. 347) completed. Volume II in progress.

PHILOSOPHY.—G. H. Howison, Editor. Volume I (pp. 262) completed. Volume II in progress. Price per volume \$2.00.

PHYSIOLOGY.—S. S. Maxwell, Editor. Price per volume \$2.00. Volumes I (pp. 217), II (pp. 215), III (pp. 197) completed. Volume IV in progress.

PSYCHOLOGY.—George M. Stratton, Editor. Volume I in progress.

ZOOLOGY.—W. E. Ritter and C. A. Kofoed, Editors. Price per volume for volumes I-X, \$3.50; for volume XI and following, \$5.00. Volumes I (pp. 317), II (pp. 382), III (pp. 383), IV (pp. 400), V (pp. 440), VI (pp. 478), VII (pp. 446), VIII (pp. 357), IX (pp. 365), X (pp. 417), and XI (pp. 538) completed. Volumes XII, XIII, and XIV in progress.

UNIVERSITY OF CALIFORNIA CHRONICLE.—An official record of University life, issued quarterly, edited by a committee of the Faculty. Price, \$1.00 per year. Current volume No. XVII.

Address all orders or requests for information concerning the above publications to The University Press, Berkeley, California.

European agent for the series in American Archaeology and Ethnology, Classical Philology, Education, Philosophy, and Semitic Philology, Otto Harrassowitz, Leipzig. For the series in Agricultural Sciences, Botany, Geography, Geology, Mathematics, Pathology, Physiology, Zoology, and also American Archaeology and Ethnology, R. Friedlaender & Sohn, Berlin.

RECEIVED

MAR 31 1916

LIBRARY OF THE
UNIVERSITY OF CALIFORNIA PUBLICATIONS
PEABODY MUSEUM
IN

AMERICAN ARCHAEOLOGY AND ETHNOLOGY

Vol. 11, No. 6, pp. 297-398

March 8, 1916

THE DELINEATION OF THE DAY-SIGNS IN
THE AZTEC MANUSCRIPTS

BY

T. T. WATERMAN

UNIVERSITY OF CALIFORNIA PRESS
BERKELEY

UNIVERSITY OF CALIFORNIA PUBLICATIONS

DEPARTMENT OF ANTHROPOLOGY

The following publications dealing with archaeological and ethnological subjects issued under the direction of the Department of Anthropology are sent in exchange for the publications of anthropological departments and museums, and for journals devoted to general anthropology or to archaeology and ethnology. They are for sale at the prices stated, which include postage or express charges. Exchanges should be directed to The Exchange Department, University Library, Berkeley, California, U. S. A. All orders and remittances should be addressed to the University Press.

European agent for the series in American Archaeology and Ethnology, Classical Philology, Education, Modern Philology, Philosophy, and Semitic Philology, Otto Harrassowitz, Leipzig. For the series in Botany, Geology, Pathology, Physiology, Zoology and also American Archaeology and Ethnology, R. Friedlaender & Sohn, Berlin.

AMERICAN ARCHAEOLOGY AND ETHNOLOGY.—A. L. Kroeber, Editor. Prices, Volume 1, \$4.25; Volumes 2 to 10, inclusive, \$3.50 each; Volume 11 and following, \$5.00 each.

	Cited as Univ. Calif. Publ. Am. Arch. Ethn.	Price
Vol. 1.	1. Life and Culture of the Hupa, by Pliny Earle Goddard. Pp. 1-88; plates 1-30. September, 1903	\$1.25
	2. Hupa Texts, by Pliny Earle Goddard. Pp. 89-368. March, 1904	3.00
	Index, pp. 369-378.	
Vol. 2.	1. The Exploration of the Potter Creek Cave, by William J. Sinclair. Pp. 1-27; plates 1-14. April, 1904 .....	.40
	2. The Languages of the Coast of California South of San Francisco, by A. L. Kroeber. Pp. 29-80, with a map. June, 1904 .....	.60
	3. Types of Indian Culture in California, by A. L. Kroeber. Pp. 81-103. June, 1904 .....	.25
	4. Basket Designs of the Indians of Northwestern California, by A. L. Kroeber. Pp. 105-164; plates 15-21. January, 1905 .....	.75
	5. The Yokuts Language of South Central California, by A. L. Kroeber. Pp. 165-377. January, 1907	2.25
	Index, pp. 379-392.	
Vol. 3.	The Morphology of the Hupa Language, by Pliny Earle Goddard. 344 pp. June, 1905	3.50
Vol. 4.	1. The Earliest Historical Relations between Mexico and Japan, from original documents preserved in Spain and Japan, by Zelia Nuttall. Pp. 1-47. April, 1906 .....	.50
	2. Contribution to the Physical Anthropology of California, based on collections in the Department of Anthropology of the University of California, and in the U. S. National Museum, by Ales Hrdlicka. Pp. 49-64, with 5 tables; plates 1-10, and map. June, 1906 .....	.75
	3. The Shoshonean Dialects of California, by A. L. Kroeber. Pp. 65-166. February, 1907	1.50
	4. Indian Myths from South Central California, by A. L. Kroeber. Pp. 167-250. May, 1907 .....	.75
	5. The Washo Language of East Central California and Nevada, by A. L. Kroeber. Pp. 251-318. September, 1907 .....	.75
	6. The Religion of the Indians of California, by A. L. Kroeber. Pp. 319-356. September, 1907 .....	.50
	Index, pp. 357-374.	
Vol. 5.	1. The Phonology of the Hupa Language; Part I, The Individual Sounds, by Pliny Earle Goddard. Pp. 1-20, plates 1-8. March, 1907 .....	.35
	2. Navaho Myths, Prayers and Songs, with Texts and Translations, by Washington Matthews, edited by Pliny Earle Goddard. Pp. 21-63. September, 1907 .....	.75
	3. Kato Texts, by Pliny Earle Goddard. Pp. 65-238, plate 9. December, 1909	2.50
	4. The Material Culture of the Klamath Lake and Modoc Indians of Northeastern California and Southern Oregon, by S. A. Barrett. Pp. 239-292, plates 10-25. June, 1910 .....	.75
	5. The Chimariko Indians and Language, by Roland B. Dixon. Pp. 293-380. August, 1910	1.00
	Index, pp. 381-384.	
Vol. 6.	1. The Ethno-Geography of the Pomo and Neighboring Indians, by Samuel Alfred Barrett. Pp. 1-332, maps 1-2. February, 1908	3.25
	2. The Geography and Dialects of the Miwok Indians, by Samuel Alfred Barrett. Pp. 333-368, map 3.	
	3. On the Evidence of the Occupation of Certain Regions by the Miwok Indians, by A. L. Kroeber. Pp. 369-380. Nos. 2 and 3 in one cover. February, 1908 .....	.50
	Index, pp. 381-400.	

UNIVERSITY OF CALIFORNIA PUBLICATIONS—(CONTINUED)

Vol. 7.	1. The Emeryville Shellmound, by Max Uhle. Pp. 1-106, plates 1-12, with 38 text figures. June, 1907	1.25
	2. Recent Investigations bearing upon the Question of the Occurrence of Neocene Man in the Auriferous Gravels of California, by William J. Sinclair. Pp. 107-130, plates 13-14. February, 1908 .....	.35
	3. Pomo Indian Basketry, by S. A. Barrett. Pp. 133-306, plates 15-30, 231 text figures. December, 1908	1.75
	4. Shellmounds of the San Francisco Bay Region, by N. C. Nelson. Pp. 309-356, plates 32-34. December, 1909 .....	.50
	5. The Ellis Landing Shellmound, by N. C. Nelson. Pp. 357-426, plates 36-50. April, 1910 .....	.75
	Index, pp. 427-443.	
Vol. 8.	1. A Mission Record of the California Indians, from a Manuscript in the Bancroft Library, by A. L. Kroeber. Pp. 1-27. May, 1908 .....	.25
	2. The Ethnography of the Cahuilla Indians, by A. L. Kroeber. Pp. 29-68, plates 1-15. July, 1908 .....	.75
	3. The Religion of the Luisefio and Dieguefio Indians of Southern California, by Constance Goddard Dubois. Pp. 69-186, plates 16-19. June, 1908	1.25
	4. The Culture of the Luisefio Indians, by Philip Stedman Sparkman. Pp. 187-234, plate 20. August, 1908 .....	.50
	5. Notes on Shoshonean Dialects of Southern California, by A. L. Kroeber. Pp. 235-269. September, 1909 .....	.35
	6. The Religious Practices of the Dieguefio Indians, by T. T. Waterman. Pp. 271-358, plates 21-28. March, 1910 .....	.80
	Index, pp. 359-369.	
Vol. 9.	1. Yana Texts, by Edward Sapir, together with Yana Myths collected by Roland B. Dixon. Pp. 1-235. February, 1910	2.50
	2. The Chumash and Costanoan Languages, by A. L. Kroeber. Pp. 237-271. November, 1910 .....	.35
	3. The Languages of the Coast of California North of San Francisco, by A. L. Kroeber. Pp. 273-435, and map. April, 1911	1.50
	Index, pp. 437-439.	
Vol. 10.	1. Phonetic Constituents of the Native Languages of California, by A. L. Kroeber. Pp. 1-12. May, 1911 .....	.10
	2. The Phonetic Elements of the Northern Paiute Language, by T. T. Waterman. Pp. 13-44, plates 1-5. November, 1911 .....	.45
	3. Phonetic Elements of the Mohave Language, by A. L. Kroeber. Pp. 45-96, plates 6-20. November, 1911 .....	.65
	4. The Ethnology of the Salinan Indians, by J. Alden Mason. Pp. 97-240, plates 21-37. December, 1912	1.75
	5. Papago Verb Stems, by Juan Dolores. Pp. 241-263. August, 1913 .....	.25
	6. Notes on the Chilula Indians of Northwestern California, by Pliny Earle Goddard. Pp. 265-288, plates 38-41. April, 1914 .....	.30
	7. Chilula Texts, by Pliny Earle Goddard. Pp. 289-379. November, 1914	1.00
	Index, pp. 381-385.	
Vol. 11.	1. Elements of the Kato Language, by Pliny Earle Goddard. Pp. 1-176, plates 1-45. October, 1912	2.00
	2. Phonetic Elements of the Dieguefio Language, by A. L. Kroeber and J. P. Harrington. Pp. 177-188. April, 1914 .....	.10
	3. Sarsi Texts, by Pliny Earle Goddard. Pp. 189-277. February, 1915	1.00
	4. Serian, Tequistlatecan, and Hekan, by A. L. Kroeber. Pp. 279-290. February, 1915 .....	.10
	5. Dichotomous Social Organization in South Central California, by Edward Winslow Gifford. Pp. 291-296. February, 1916 .....	.05
	6. The Delineation of the Day-Signs in the Aztec Manuscripts, by T. T. Waterman. Pp. 297-398. March, 1916	1.00
	7. The Mutsun Dialect of Costanoan Based on the Vocabulary of De la Cuesta, by J. Alden Mason. Pp. 399-472. March, 1916 .....	.70
	Index in preparation.	
Vol. 12.	1. Composition of California Shellmounds, by Edward Winslow Gifford. Pp. 1-29. February, 1916 .....	.30

UNIVERSITY OF CALIFORNIA PUBLICATIONS—(CONTINUED)

Volumes now completed:

Volume 1.	1903-1904.	378 pages and 30 plates	\$4.25
Volume 2.	1904-1907.	393 pages and 21 plates	3.50
Volume 3.	1905.	The Morphology of the Hupa Language. 344 pages	2.50
Volume 4.	1906-1907.	374 pages, with 5 tables, 10 plates, and map	3.50
Volume 5.	1907-1910.	384 pages, with 25 plates	3.50
Volume 6.	1908.	400 pages, with 3 maps	3.50
Volume 7.	1907-1910.	443 pages and 50 plates	3.50
Volume 8.	1908-1910.	369 pages and 28 plates	3.50
Volume 9.	1910-1911.	439 pages	3.50
Volume 10.	1911-1914.	385 pages and 41 plates	3.50

Note.—The University of California Publications are offered in exchange for the publications of learned societies and institutions, universities and libraries. Complete lists of all the publications of the University will be sent upon request. For sample copies, lists of publications or other information, address the Manager of the University Press, Berkeley, California, U. S. A. All matter sent in exchange should be addressed to The Exchange Department, University Library, Berkeley, California, U. S. A.

AGRICULTURAL SCIENCES.—E. B. Babcock, J. W. Gilmore, and C. B. Lipman, Editors. Price per volume, \$3.50. Volumes I and II in progress.

ASTRONOMY.—W. W. Campbell, Editor. (Lick Observatory, Mt. Hamilton, Cal.) Publications of the Lick Observatory.—Volumes I-XII completed.

BOTANY.—W. A. Satchell, Editor. Price per volume \$3.50. Volumes I (pp. 418), II (pp. 360), III (pp. 400), and IV (pp. 397) completed. Volumes V and VI in progress.

CLASSICAL PHILOLOGY.—Edward B. Clapp, William A. Merrill, Herbert C. Nutting, Editors. Price per volume \$2.00. Volume I (pp. 270) completed. Volume II in progress.

EDUCATION.—Edited by the Department of Education. Price per volume \$2.50.

ENGINEERING.—Edited under the direction of the Engineering Departments. This series will contain contributions from the Colleges of Mechanics, Mining, and Civil Engineering. Volume I in progress.

GEOGRAPHY.—Euliff E. Holway, Editor. Volume I in progress.

GEOLOGY.—Bulletin of the Department of Geology. Andrew C. Lawson and John O. Merriam, Editors. Price per volume \$3.50. Volumes I (pp. 435), II (pp. 457), III (pp. 482), IV (pp. 462), V (pp. 458), VI (pp. 454), VII (pp. 504), and VIII (pp. 583) completed. Volume IX in progress.

MODERN PHILOLOGY.—Volumes I (pp. 400) and II (pp. 373) completed. Volumes III and IV in progress.

PATHOLOGY.—Frederick P. Gay, Editor. Price per volume, \$2.50. Volume I (pp. 347) completed. Volume II in progress.

PHILOSOPHY.—G. H. Howison, Editor. Volume I (pp. 262) completed. Volume II in progress. Price per volume \$2.00.

PHYSIOLOGY.—S. S. Maxwell, Editor. Price per volume \$2.00. Volumes I (pp. 217), II (pp. 215), III (pp. 197), and IV (pp. 228) completed. Volume V in progress.

PSYCHOLOGY.—George M. Stratton, Editor. Volume I in progress.

ZOOLOGY.—W. E. Ritter and C. A. Kofoid, Editors. Price per volume for volumes I-X, \$3.50; for volume XI and following, \$5.00. Volumes I (pp. 317), II (pp. 382), III (pp. 383), IV (pp. 400), V (pp. 440), VI (pp. 478), VII (pp. 446), VIII (pp. 367), IX (pp. 365), X (pp. 417), and XI (pp. 538) completed. Volumes XII to XVI inclusive in progress.

UNIVERSITY OF CALIFORNIA OMBONIOLE.—An official record of University life, issued quarterly, edited by a committee of the Faculty. Price, \$1.00 per year. Current volume No. XVIII.

Address all orders or requests for information concerning the above publications to The University Press, Berkeley, California.

RECEIVED 1

MAR 31 1916

LIBRARY OF THE
PEABODY MUSEUM

UNIVERSITY OF CALIFORNIA PUBLICATIONS

IN

AMERICAN ARCHAEOLOGY AND ETHNOLOGY

Vol. 11, No. 7, pp. 399-472

March 9, 1916

THE MUTSUN DIALECT OF COSTANOAN
BASED ON THE VOCABULARY
OF DE LA CUESTA

BY

J. ALDEN MASON

UNIVERSITY OF CALIFORNIA PRESS
BERKELEY

UNIVERSITY OF CALIFORNIA PUBLICATIONS

DEPARTMENT OF ANTHROPOLOGY

The following publications dealing with archaeological and ethnological subjects issued under the direction of the Department of Anthropology are sent in exchange for the publications of anthropological departments and museums, and for journals devoted to general anthropology or to archaeology and ethnology. They are for sale at the prices stated, which include postage or express charges. Exchanges should be directed to The Exchange Department, University Library, Berkeley, California, U. S. A. All orders and remittances should be addressed to the University Press.

European agent for the series in American Archaeology and Ethnology, Classical Philology, Education, Modern Philology, Philosophy, and Semitic Philology, Otto Harrassowitz, Leipzig. For the series in Botany, Geology, Pathology, Physiology, Zoology and also American Archaeology and Ethnology, E. Friedlaender & Sohn, Berlin.

AMERICAN ARCHAEOLOGY AND ETHNOLOGY.—A. L. Kroeber, Editor. Prices, Volume 1, \$4.25; Volumes 2 to 10, inclusive, \$3.50 each; Volume 11 and following, \$5.00 each.

	Cited as Univ. Calif. Publ. Am. Arch. Ethn.	Price
Vol. 1.	1. Life and Culture of the Hupa, by Pliny Earle Goddard. Pp. 1-88; plates 1-30. September, 1903	\$1.25
	2. Hupa Texts, by Pliny Earle Goddard. Pp. 89-368. March, 1904	3.00
	Index, pp. 369-378.	
Vol. 2.	1. The Exploration of the Potter Creek Cave, by William J. Sinclair. Pp. 1-27; plates 1-14. April, 1904 .....	.40
	2. The Languages of the Coast of California South of San Francisco, by A. L. Kroeber. Pp. 29-80, with a map. June, 1904 .....	.60
	3. Types of Indian Culture in California, by A. L. Kroeber. Pp. 81-103. June, 1904 .....	.25
	4. Basket Designs of the Indians of Northwestern California, by A. L. Kroeber. Pp. 106-164; plates 15-21. January, 1906 .....	.75
	5. The Yokuts Language of South Central California, by A. L. Kroeber. Pp. 165-377. January, 1907	2.25
	Index, pp. 379-392.	
Vol. 3.	The Morphology of the Hupa Language, by Pliny Earle Goddard. 344 pp. June, 1906	3.50
Vol. 4.	1. The Earliest Historical Relations between Mexico and Japan, from original documents preserved in Spain and Japan, by Zelia Nuttall. Pp. 1-47. April, 1906 .....	.50
	2. Contribution to the Physical Anthropology of California, based on collections in the Department of Anthropology of the University of California, and in the U. S. National Museum, by Ales Hrdlicka. Pp. 49-64, with 5 tables; plates 1-10, and map. June, 1906 .....	.75
	3. The Shoshonean Dialects of California, by A. L. Kroeber. Pp. 65-166. February, 1907	1.50
	4. Indian Myths from South Central California, by A. L. Kroeber. Pp. 167-250. May, 1907 .....	.75
	5. The Washo Language of East Central California and Nevada, by A. L. Kroeber. Pp. 251-318. September, 1907 .....	.75
	6. The Religion of the Indians of California, by A. L. Kroeber. Pp. 319-356. September, 1907 .....	.50
	Index, pp. 357-374.	
Vol. 5.	1. The Phonology of the Hupa Language; Part I, The Individual Sounds, by Pliny Earle Goddard. Pp. 1-20, plates 1-8. March, 1907 .....	.35
	2. Navaho Myths, Prayers and Songs, with Texts and Translations, by Washington Matthews, edited by Pliny Earle Goddard. Pp. 21-63. September, 1907 .....	.75
	3. Kato Texts, by Pliny Earle Goddard. Pp. 65-238, plate 9. December, 1909	2.50
	4. The Material Culture of the Klamath Lake and Modoc Indians of Northeastern California and Southern Oregon, by S. A. Barrett. Pp. 239-292, plates 10-25. June, 1910 .....	.75
	5. The Chimariko Indians and Language, by Roland B. Dixon. Pp. 293-380. August, 1910	1.00
	Index, pp. 381-384.	
Vol. 6.	1. The Ethno-Geography of the Pomo and Neighboring Indians, by Samuel Alfred Barrett. Pp. 1-352, maps 1-2. February, 1908	3.25
	2. The Geography and Dialects of the Miwok Indians, by Samuel Alfred Barrett. Pp. 353-368, map 3.	
	3. On the Evidence of the Occupation of Certain Regions by the Miwok Indians, by A. L. Kroeber. Pp. 369-380. Nos. 2 and 3 in one cover. February, 1908 .....	.50
	Index, pp. 381-400.	

UNIVERSITY OF CALIFORNIA PUBLICATIONS—(CONTINUED)

Vol. 7.	1. The Emeryville Shellmound, by Max Uhle. Pp. 1-106, plates 1-12, with 38 text figures. June, 1907	1.25
	2. Recent Investigations bearing upon the Question of the Occurrence of Neocene Man in the Auriferous Gravels of California, by William J. Sinclair. Pp. 107-130, plates 13-14. February, 1908 .....	.35
	3. Pomo Indian Basketry, by S. A. Barrett. Pp. 133-306, plates 15-30, 231 text figures. December, 1908	1.75
	4. Shellmounds of the San Francisco Bay Region, by N. O. Nelson. Pp. 309-356, plates 32-34. December, 1909 .....	.50
	5. The Ellis Landing Shellmound, by N. O. Nelson. Pp. 357-426, plates 36-50. April, 1910 .....	.75
	Index, pp. 427-443.	
Vol. 8.	1. A Mission Record of the California Indians, from a Manuscript in the Bancroft Library, by A. L. Kroeber. Pp. 1-27. May, 1908 .....	.25
	2. The Ethnography of the Cahuilla Indians, by A. L. Kroeber. Pp. 29-68, plates 1-15. July, 1908 .....	.75
	3. The Religion of the Luiseño and Diegueño Indians of Southern California, by Constance Goddard Dubois. Pp. 69-186, plates 16-19. June, 1908	1.35
	4. The Culture of the Luiseño Indians, by Philip Stedman Sparkman. Pp. 187-234, plate 20. August, 1908 .....	.50
	5. Notes on Shoshonean Dialects of Southern California, by A. L. Kroeber. Pp. 235-269. September, 1909 .....	.35
	6. The Religious Practices of the Diegueño Indians, by T. T. Waterman. Pp. 271-358, plates 21-28. March, 1910 .....	.80
	Index, pp. 359-369.	
Vol. 9.	1. Yana Texts, by Edward Sapir, together with Yana Myths collected by Roland B. Dixon. Pp. 1-235. February, 1910	2.50
	2. The Ohumash and Costanoan Languages, by A. L. Kroeber. Pp. 237-271. November, 1910 .....	.35
	3. The Languages of the Coast of California North of San Francisco, by A. L. Kroeber. Pp. 273-435, and map. April, 1911	1.50
	Index, pp. 437-439.	
Vol. 10.	1. Phonetic Constituents of the Native Languages of California, by A. L. Kroeber. Pp. 1-12. May, 1911 .....	.10
	2. The Phonetic Elements of the Northern Paiute Language, by T. T. Waterman. Pp. 13-44, plates 1-5. November, 1911 .....	.45
	3. Phonetic Elements of the Mohave Language, by A. L. Kroeber. Pp. 45-96, plates 6-20. November, 1911 .....	.65
	4. The Ethnology of the Salinan Indians, by J. Alden Mason. Pp. 97-240, plates 21-37. December, 1912	1.75
	5. Papago Verb Stems, by Juan Dolores. Pp. 241-263. August, 1913 .....	.25
	6. Notes on the Chulula Indians of Northwestern California, by Pliny Earle Goddard. Pp. 265-288, plates 38-41. April, 1914 .....	.30
	7. Chulula Texts, by Pliny Earle Goddard. Pp. 289-379. November, 1914	1.00
	Index, pp. 381-385.	
Vol. 11.	1. Elements of the Kato Language, by Pliny Earle Goddard. Pp. 1-176, plates 1-45. October, 1912	2.00
	2. Phonetic Elements of the Diegueño Language, by A. L. Kroeber and J. P. Harrington. Pp. 177-188. April, 1914 .....	.10
	3. Sarai Texts, by Pliny Earle Goddard. Pp. 189-277. February, 1915	1.00
	4. Serian, Tequistlatecan, and Hoka, by A. L. Kroeber. Pp. 279-290. February, 1915 .....	.10
	5. Dichotomous Social Organization in South Central California, by Edward Winslow Gifford. Pp. 291-296. February, 1916 .....	.05
	6. The Delineation of the Day-Signs in the Aztec Manuscripts, by T. T. Waterman. Pp. 297-398. March, 1916	1.00
	7. The Mutsun Dialect of Costanoan Based on the Vocabulary of De la Cuesta, by J. Alden Mason. Pp. 399-472. March, 1916 .....	.70
	Index in preparation.	
Vol. 12.	1. Composition of California Shellmounds, by Edward Winslow Gifford. Pp. 1-29. February, 1916 .....	.30

UNIVERSITY OF CALIFORNIA PUBLICATIONS—(CONTINUED)

Volumes now completed:

Volume 1.	1903-1904.	378 pages and 30 plates	\$4.25
Volume 2.	1904-1907.	393 pages and 21 plates	3.50
Volume 3.	1906.	The Morphology of the Hupa Language. 344 pages	3.50
Volume 4.	1906-1907.	374 pages, with 5 tables, 10 plates, and map	3.50
Volume 5.	1907-1910.	384 pages, with 25 plates	3.50
Volume 6.	1908.	400 pages, with 3 maps	3.50
Volume 7.	1907-1910.	443 pages and 50 plates	3.50
Volume 8.	1908-1910.	369 pages and 28 plates	3.50
Volume 9.	1910-1911.	439 pages	3.50
Volume 10.	1911-1914.	385 pages and 41 plates	3.50

Note.—The University of California Publications are offered in exchange for the publications of learned societies and institutions, universities and libraries. Complete lists of all the publications of the University will be sent upon request. For sample copies, lists of publications or other information, address the Manager of the University Press, Berkeley, California, U. S. A. All matter sent in exchange should be addressed to The Exchange Department, University Library, Berkeley, California, U. S. A.

AGRICULTURAL SCIENCES.—E. B. Babcock, J. W. Gilmore, and O. B. Lipman, Editors. Price per volume, \$3.50. Volumes I and II in progress.

ASTRONOMY.—W. W. Campbell, Editor. (Lick Observatory, Mt. Hamilton, Cal.) Publications of the Lick Observatory.—Volumes I-XII completed.

BOTANY.—W. A. Setchell, Editor. Price per volume \$3.50. Volumes I (pp. 418), II (pp. 380), III (pp. 400), and IV (pp. 397) completed. Volumes V and VI in progress.

CLASSICAL PHILOLOGY.—Edward B. Clapp, William A. Merrill, Herbert O. Nutting, Editors. Price per volume \$2.00. Volume I (pp. 270) completed. Volume II in progress.

EDUCATION.—Edited by the Department of Education. Price per volume \$2.50.

ENGINEERING.—Edited under the direction of the Engineering Departments. This series will contain contributions from the Colleges of Mechanics, Mining, and Civil Engineering. Volume I in progress.

GEOGRAPHY.—Euliff S. Holway, Editor. Volume I in progress.

GEOLOGY.—Bulletin of the Department of Geology. Andrew C. Lawson and John C. Merriam, Editors. Price per volume \$3.50. Volumes I (pp. 435), II (pp. 457), III (pp. 482), IV (pp. 462), V (pp. 458), VI (pp. 454), VII (pp. 504), and VIII (pp. 583) completed. Volume IX in progress.

MODERN PHILOLOGY.—Volumes I (pp. 400) and II (pp. 373) completed. Volumes III and IV in progress.

PATHOLOGY.—Frederick P. Gay, Editor. Price per volume, \$2.50. Volume I (pp. 347) completed. Volume II in progress.

PHILOSOPHY.—G. H. Howison, Editor. Volume I (pp. 262) completed. Volume II in progress. Price per volume \$2.00.

PHYSIOLOGY.—S. S. Maxwell, Editor. Price per volume \$2.00. Volumes I (pp. 217), II (pp. 215), III (pp. 197), and IV (pp. 228) completed. Volume V in progress.

PSYCHOLOGY.—George M. Stratton, Editor. Volume I in progress.

ZOOLOGY.—W. H. Ritter and C. A. Kofoid, Editors. Price per volume for volumes I-X, \$3.50; for volume XI and following, \$5.00. Volumes I (pp. 317), II (pp. 382), III (pp. 383), IV (pp. 400), V (pp. 440), VI (pp. 478), VII (pp. 446), VIII (pp. 357), IX (pp. 365), X (pp. 417), and XI (pp. 538) completed. Volumes XII to XVI inclusive in progress.

UNIVERSITY OF CALIFORNIA CHRONICLE.—An official record of University life, issued quarterly, edited by a committee of the Faculty. Price, \$1.00 per year. Current volume No. XVIII.

Address all orders or requests for information concerning the above publications to The University Press, Berkeley, California.



This book is not to be
taken from the Library

LSOC.128.C1.5 (11:8)
The delineation of the day-signs in
Tosmar Library AFK7709



3 2044 042 862 326

227
209
—
68
234

